

=> FILE REG

FILE ~~'REGISTRY'~~ ENTERED AT 11:03:54 ON 07 MAR 2002
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STRUCTURE FILE UPDATES: 5 MAR 2002 HIGHEST RN 398451-41-7
DICTIONARY FILE UPDATES: 5 MAR 2002 HIGHEST RN 398451-41-7

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNnote 27, Searching Properties in the CAS
Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

The P indicator for Preparations was not generated for all of the
CAS Registry Numbers that were added to the H/Z/CA/CAPLUS files between
12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches
during this period, either directly appended to a CAS Registry Number
or by qualifying an L-number with /P, may have yielded incomplete results.
As of 1/23/02, the situation has been resolved. Also, note that searches
conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAPLUS files
incorporating CAS Registry Numbers with the P indicator between 12/27/01
and 1/23/02, are encouraged to re-run these strategies. Contact the
CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698,
worldwide, or send an e-mail to help@cas.org for further assistance or to
receive a credit for any duplicate searches.

<-----User Break----->

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=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 11:05:39 ON 07 MAR 2002
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FILE COVERS 1907 - 7 Mar 2002 VOL 136 ISS 10
FILE LAST UPDATED: 5 Mar 2002 (20020305/ED)

This file contains CAS Registry Numbers for easy and accurate

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substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> D QUE L53

L20 10 SEA FILE=REGISTRY ABB=ON (104-15-4/BI OR 107-15-3/BI OR 108-31-6/BI OR 123-31-9/BI OR 50-70-4/BI OR 57675-44-2/BI OR 6303-21-5/BI OR 7647-01-0/BI OR 7664-38-2/BI OR 7664-93-9/BI)
L21 1 SEA FILE=REGISTRY ABB=ON L20 AND 60/C = *Trimethylol propane triolate*
L22 1 SEA FILE=REGISTRY ABB=ON SORBIC ACID/CN
L23 173 SEA FILE=REGISTRY ABB=ON SORBATE
L24 130 SEA FILE=REGISTRY ABB=ON L23 NOT PMS/CI
L25 1 SEA FILE=REGISTRY ABB=ON SORBIC ANHYDRIDE/CN
L26 2 SEA FILE=REGISTRY ABB=ON "TETRAHYDROPHthalic ANHYDRIDE"/CN
L27 1 SEA FILE=REGISTRY ABB=ON "TETRAHYDROPHthalic ACID"/CN
L28 1 SEA FILE=REGISTRY ABB=ON SALICYLIC ACID/CN
L29 1 SEA FILE=REGISTRY ABB=ON SALICYLIC ANHYDRIDE/CN
L30 1 SEA FILE=REGISTRY ABB=ON ACRYLIC ACID/CN
L31 1 SEA FILE=REGISTRY ABB=ON ACRYLIC ANHYDRIDE/CN
L32 2 SEA FILE=REGISTRY ABB=ON SORBITOL/CN OR HYDROQUINONE/CN
L33 130 SEA FILE=HCAPLUS ABB=ON L21
L34 460539 SEA FILE=HCAPLUS ABB=ON L22 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR ?SORBIC? OR ?SORBATE? OR TETRAHYDROPHthalic? OR SLICYLIC? OR SLICYLAT? OR ?ACRYLIC? OR ?ACRYLAT?
L35 511200 SEA FILE=HCAPLUS ABB=ON L34 OR ?SALICYLIC? OR ?SALICYLAT?
L36 12 SEA FILE=HCAPLUS ABB=ON L33 AND L35
L37 77310 SEA FILE=HCAPLUS ABB=ON L32 OR ?SORBITOL? OR ?HYDROQUINON?
L38 0 SEA FILE=HCAPLUS ABB=ON L36 AND L37
L39 0 SEA FILE=HCAPLUS ABB=ON L36 AND POLYHYDROX?
L40 2 SEA FILE=HCAPLUS ABB=ON L36 AND ?HYDROXY?
L41 7 SEA FILE=HCAPLUS ABB=ON L36 AND FUEL#/SC, SX
L42 31727 SEA FILE=HCAPLUS ABB=ON L35 AND OIL#
L43 1258 SEA FILE=HCAPLUS ABB=ON L42 AND L37
L44 14 SEA FILE=HCAPLUS ABB=ON L43 AND ?WEAR?
L45 2 SEA FILE=HCAPLUS ABB=ON L44 AND FUEL#/SC, SX
L46 45 SEA FILE=HCAPLUS ABB=ON L43 AND FUEL#/SC, SX
L47 25 SEA FILE=HCAPLUS ABB=ON L46 AND OIL#(L)ADDITIVE?
L48 17 SEA FILE=HCAPLUS ABB=ON L47 AND LUBRICA?
L49 82 SEA FILE=HCAPLUS ABB=ON L33 AND FUEL#/SC, SX
L50 2 SEA FILE=HCAPLUS ABB=ON L49 AND L37
L51 12 SEA FILE=HCAPLUS ABB=ON L49 AND ?WEAR?
L52 33 SEA FILE=HCAPLUS ABB=ON L49 AND LUBRIC?(L)ADDITIV?
L53 56 SEA FILE=HCAPLUS ABB=ON (L38 OR L39 OR L40 OR L41) OR L45 OR L48 OR L50 OR L51 OR L52

=> D ALL L53 1-56 HITSTR

L53 ANSWER 1 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:545818 HCAPLUS

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DN 135:139598
 TI Synthetic lubricants and hydraulic fluids prepared by electrophilic addition of carboxylic acids to unsaturated fatty acids or esters
 IN Hoelderich, Wolfgang; Keller, Ulrich; Fischer, Jutta; Weckes, Patrick; Mang, Theo; Luther, Rolf; Wagner, Helena
 PA Fuchs Petrolub A.-G., Germany
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 IC ICM C10M129-68
 ICS C10M105-32; C07C067-04
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 23, 45
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001053438	A1	20010726	WO 2001-EP594	20010119
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10002516	A1	20010726	DE 2000-10002516	20000121
DE 10014922	A1	20011031	DE 2000-10014922	20000324
PRAI DE 2000-10002515	A	20000121		
DE 2000-10002516	A	20000121		
DE 2000-10014922	A	20000324		

OS MARPAT 135:139598

AB Synthetic lubricants and pressure-transmitting compns. for functional fluids and lubricating oil additives are the reaction products of electrophilic addn. of linear or branched aliph. or arom. carboxylic acids, carboxylic acid anhydrides, acyl halides, or neocarboxylic acids to the double bonds of unsatd. fatty acids or fatty acid derivs. The unsatd. fatty acids or esters suitable for reaction include oleic acid, linoleic acid, linolenic acid, palmitoleic acid, eicosenoic acid, erucic acid (or their Me esters), glycerin trioleate, pentaerythritol tetraoleate, or mixts. of rapeseed oil, sunflower oil, palm oil, coconut oil, or olive oil. The addn. reaction is carried out over acid catalysts, such as zeolites, solid phosphoric acid, metal phosphates, acidic oxides (e.g., B2O3, GeO2), org. ion-exchange resins (e.g., Amberlyst of Nafion), and homogeneous acid catalysts (H2SO4, H3BO3, HNO3, HCl, AlCl3, and other halogen acids and Lewis acids). The synthetic esters can be used in novel environmentally friendly lubricants, pressure-transmitting systems, functional liqs., and lubricant additives, and are characterized by increased oxidn. resistance and low toxicity.

ST acyloxylation electrophilic unsatd fatty ester lubricant; electrophilic addn carboxylic acid unsatd fatty acid; lubricating oil electrophilic acyloxylation unsatd fatty acid; pressure transmission fluid electrophilic acyloxylation unsatd fatty acid; hydraulic fluid pressure transmission electrophilic addn

IT Y zeolites

RL: CAT (Catalyst use); USES (Uses)

(addn. reaction catalysts; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty

- acids or esters)
- IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(branched, reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Addition reaction catalysts
(electrophilic, acidic; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Addition reaction
(electrophilic; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(neo-, reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Hydraulic fluids
(pressure-transmitting; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Coconut oil
Olive oil
Palm oil
Rape oil
Sunflower oil
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Acid halides
Anhydrides
Carboxylic acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(reaction products with unsatd. fatty acids and esters; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Lubricating oil additives
(synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Lubricating oils
(synthetic; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Glycerides, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
(unsatd. fatty acid-contg., reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prep'd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)

- (unsatd., esters, reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT Fatty acids, uses
 RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
 (unsatd., reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT 9003-70-7D, Styrene-divinylbenzene copolymer, sulfonated 9037-24-5, amberlyst 15
 RL: CAT (Catalyst use); USES (Uses)
 (addn. reaction catalyst; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT 75-75-2, Methylsulfonic acid 1303-86-2, Boron oxide (B2O3), uses 1309-37-1, Ferric oxide, uses 1310-53-8, Germanium dioxide, uses 1314-23-4, Zirconium dioxide, uses 1344-28-1, Alumina, uses 7446-28-8, Strontium phosphate 7446-70-0, Aluminum trichloride, uses 7631-86-9, Silica, uses 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-39-3, Hydrofluoric acid, uses 7664-93-9, Sulfuric acid, uses 7697-37-2, Nitric acid, uses 7705-08-0, Ferric chloride, uses 7727-15-3, Aluminum tribromide 7772-99-8, Tin dichloride, uses 7784-30-7, Aluminum phosphate 10031-26-2, Ferric bromide 10043-35-3, Boric acid (H3BO3), uses 10402-24-1, Iron phosphate 13308-51-5, Boron phosphate 13765-95-2, Zirconium phosphate 13765-96-3 16872-11-0, Hydrogen tetrafluoroborate 18282-10-5, Tin dioxide 19114-77-3 220618-25-7, Nafion SAC 13
 RL: CAT (Catalyst use); USES (Uses)
 (addn. reaction catalysts; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT 123904-68-7D, reaction products with carboxylic acids
 RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)
 (reaction products with carboxylic acids; synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)
- IT 36881-14-8, Propanoic acid, 2,2-dimethyl-3-(phenylmethoxy)- 91367-77-0, Propanoic acid, 2,2-dimethyl-3-(2-methylpropoxy)- 321992-68-1, Propanoic acid, 3-(2-ethylbutoxy)-2,2-dimethyl- 321992-69-2, Propanoic acid, 2,2-dimethyl-3-[(2-methylphenyl)methoxy]-
 RL: PRP (Properties); RCT (Reactant)
 (spectral characterization and reaction of)
- IT 60-33-3D, Linoleic acid, reaction products with carboxylic acids
 64-18-6D, Formic acid, addn. products with Me oleate 75-98-9D, Pivalic acid, addn. products with Me oleate 112-62-9D, Methyl oleate, addn. products with formic acid or pivalic acid 112-63-0D, Linoleic acid methyl ester, reaction products with carboxylic acids 112-80-1D, Oleic acid, reaction products with carboxylic acids 112-86-7D, Erucic acid, reaction products with carboxylic acids 122-32-7D, Glycerin trioleate, reaction products with carboxylic acids 301-00-8D, Linolenic acid methyl ester, reaction products with carboxylic acids 373-49-9D, Palmitoleic acid, reaction products with carboxylic acids 463-40-1D, Linolenic acid, reaction products with carboxylic acids 537-40-6D, Glycerin trilinoleate, reaction products with carboxylic acids 1120-25-8D, Palmitoleic acid methyl ester, reaction products with carboxylic acids 14465-68-0D, Glycerol trilinolenate, reaction products with carboxylic acids 17860-02-5D, Propanoic acid, 2-methyl-2-propoxy-, reaction products with unsatd. fatty acids and esters 28933-89-3D, Eicosenoic

acid, reaction products with carboxylic acids 36881-14-8D, Propanoic acid, 2,2-dimethyl-3-(phenylmethoxy)-, reaction products with unsatd. fatty acids and esters 39874-62-9D, Pentaerythritol trioleate, reaction products with carboxylic acids 56525-88-3D, reaction products with carboxylic acids 56525-89-4D, reaction products with carboxylic acids 57675-44-2D, Trimethylolpropane trioleate, reaction products with carboxylic acids 58552-97-9D, reaction products with carboxylic acids 91367-77-0D, Propanoic acid, 2,2-dimethyl-3-(2-methylpropoxy)-, reaction products with unsatd. fatty acids and esters 125181-32-0D, Propanoic acid, 3-butoxy-2,2-dimethyl-, reaction products with unsatd. fatty acids and esters 321992-68-1D, Propanoic acid, 3-(2-ethylbutoxy)-2,2-dimethyl-, reaction products with unsatd. fatty acids and esters 321992-69-2D, Propanoic acid, 2,2-dimethyl-3-[(2-methylphenyl)methoxy]-, reaction products with unsatd. fatty acids and esters 351436-95-8 351436-96-9
 RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)

(synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Black, L; J Amer Oil Chem Soc 1967, V44(5), P310 HCAPLUS
- (2) Hoelderich, W; US 4709097 A 1987 HCAPLUS
- (3) Mantell, G; US 3676500 A 1972 HCAPLUS
- (4) Mikeska; US 2115341 A 1938 HCAPLUS
- (5) New Japan Chem Co Ltd; JP 09241210 A 1997 HCAPLUS
- (6) Tulloch, A; Org Magn Reson 1978, V11(3), P109 HCAPLUS

IT 57675-44-2D, Trimethylolpropane trioleate, reaction products with carboxylic acids

RL: MOA (Modifier or additive use); NUU (Other use, unclassified); RCT (Reactant); USES (Uses)

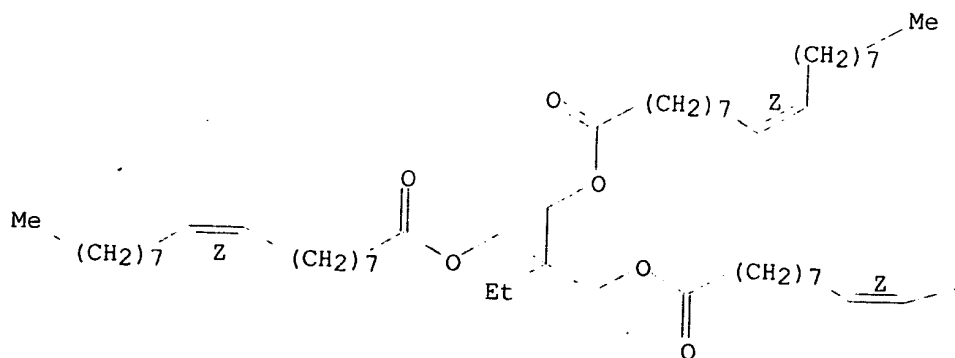
(synthetic lubricants and hydraulic fluids prepd. by electrophilic addn. of carboxylic acids to unsatd. fatty acids or esters)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A

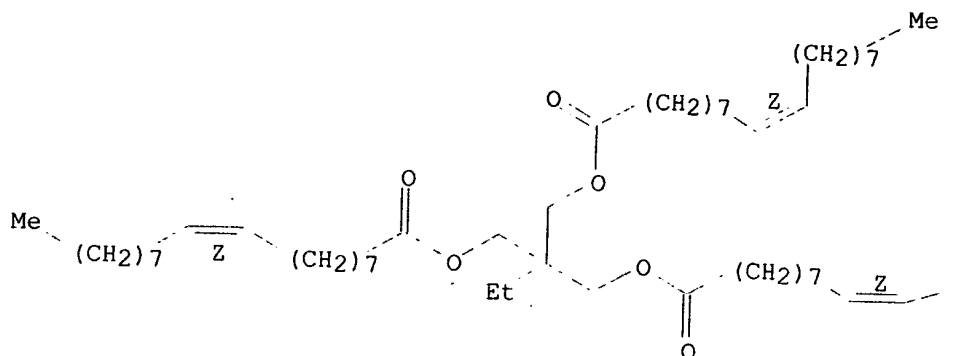


— (CH₂)₇ —
Me

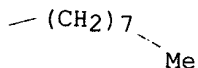
- L53 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:419341 HCAPLUS
DN 135:213134
TI A study of the effect of chemical structure on friction and wear
: Part 2 - Vegetable oils and esters
AU Weller, David E., Jr.; Perez, Joseph M.
CS Chemical Engineering Department, The Pennsylvania State University,
University Park, PA, 16802, USA
SO Lubr. Eng. (2001), 57(5), 20-26
CODEN: LUENAG; ISSN: 0024-7154
PB Society of Tribologists and Lubrication Engineers
DT Journal
LA English
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 45
AB The effects of chem. structure on the friction and wear
characteristics of base lubricating oils in a four-ball
wear tester was examd. for three vegetable oils (e.g., jojoba oil,
corn oil, and castor oil) and two synthetic esters (e.g., pentaerythritol
tetraoleate and trimethylolpropane trioleate). Monoesters (i.e., pure
substances) showed the best wear behavior for the base fluids,
which the addn. of additives did not improve. A statistical
regression anal. showed a high correlation between chem. structure effects
and wear and friction results. Polyunsatn. of the vegetable
oils lead to an unexpected higher wear and friction with
additives. Hydroxyl group branching of the castor oil did not
affect interaction with additives. Finally, wear
behavior were affected by chain branching and chain length of the acid
group of the ester.
ST lubricating base oil antifriction antiwear chem structure;
vegetable oil chem structure lubricating base oil; ester chem structure
lubricating base oil; pentaerythritol oleate lubricant antifriction
antiwear; trimethylolpropane oleate lubricant antifriction
antiwear
IT Lubricating oil additives
(antifriction-antiwear; chem. structure effects on
antifriction and antiwear behavior of synthetic ester and
vegetable oil lubricating base oils)
IT Castor oil
Corn oil
Jojoba oil
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and antiwear

- behavior of synthetic ester and vegetable oil lubricating base oils)
- IT Lubricating oils
(base oils, synthetic; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
- IT Molecular structure-property relationship
(of fatty acids and vegetable oils; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
- IT Hydrocarbons, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(sulfurized, **lubricant additive**; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil **lubricating** base oils)
- IT Fats and Glyceridic oils, properties
RL: PRP (Properties)
(vegetable; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
- IT 19321-40-5, Pentaerythritol tetraoleate 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
- IT 594-07-0D, Dithiocarbamic acid, derivs. 1330-78-5, Tricresyl phosphate 7664-38-2D, Phosphoric acid, amine salts 15834-33-0D, Phosphorodithioic acid, derivs.
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**lubricant additives**; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil **lubricating** base oils)
- RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) ASTM; 1995, ASTM D5864
 - (2) ASTM; Standard Test Method for Wear Preventive Characteristics of Lubricating Fluid 1994, ASTM D4 172
 - (3) Anon; CRC Handbook of Lubrication 1994, V111
 - (4) Asadauskas, S; ACS Symposia Preprints 1997, V42(1), P246 HCAPLUS
 - (5) Asadauskas, S; Lubr Eng 1996, V52(12), P877 HCAPLUS
 - (6) Asadauskas, S; Lubr Eng 1997, V53(12), P35 HCAPLUS
 - (7) Battersby, N; Chemosphere 1992, V24(12), P1989 HCAPLUS
 - (8) Bisht, R; Jour of Scientific and Industrial Research 1989, V48, P174
 - (9) Bisht, R; Wear 1993, V161, P193 HCAPLUS
 - (10) Eichenberger, H; Society of Automotive Engineers Paper No 910962 1991
 - (11) Gapinski, R; Society of Automotive Engineers Paper No 941758 1994
 - (12) Novick, N; Jour of Synthetic Lubr 1996, V13(1), P19 HCAPLUS
 - (13) Padavich, R; Society of Automotive Engineers Paper No 952077 1995
 - (14) Van der Waal, G; Jour of Synthetic Lubr 1993, V10(1), P67 HCAPLUS
 - (15) Voltz, M; Jour of Synthetic Lubr 1995, V12(3), P215
- IT 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties)
(base oil; chem. structure effects on antifriction and **antiwear** behavior of synthetic ester and vegetable oil lubricating base oils)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)
- Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:61525 HCAPLUS
 DN 134:118228
 TI Oil-in-water emulsions as coolant metalworking cutting oils containing dispersed elemental sulfur
 IN Lange, Ilona; Geke, Juergen; Foell, Juergen; Rossmailer, Henry
 PA Henkel KGaA, Germany
 SO Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C10M125-22
 ICS C10M173-00
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19934170	A1	20010125	DE 1999-19934170	19990721
	WO 2001007545	A1	20010201	WO 2000-EP6650	20000712
	W: AU, BG, BR, BY, CA, CN, CZ, HU, ID, IN, JP, KR, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, UA, US, UZ, VN, YU, ZA				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

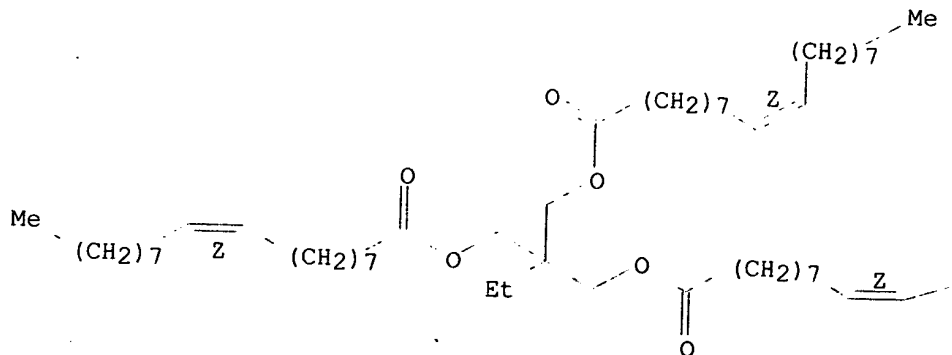
PRAI DE 1999-19934170 A 19990721

- AB Cooling lubricants for cutting metalworking are oil-in-water emulsions contg. 0.01-0.5 wt.% of elemental sulfur with an av. particle size of 10-1500 nm, preferably 25-800 nm. The base oils are selected from paraffinic and naphthenic oils, polyolefins, ester oils, acetal oils, or dialkyl ether oils. Addnl. components can also be present include emulsifiers, corrosion inhibitors, and/or biocides. A suitable compn., as a lubricant conc., is base oil 10-70, emulsifiers 7-50, corrosion inhibitors 7-40, and elemental sulfur 0.1-5 wt.%.
- ST coolant lubricant cutting metalworking emulsion; sulfur metalworking lubricating emulsion
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C16-18, ethoxylated, additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Esters, uses
Naphthenic oils
Paraffin oils
Polyolefins
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oil additives
(biocides, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oil additives
(corrosion inhibitors, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oil additives
(cutting oil additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oils
(cutting oils, emulsion; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di(dodecyl), lubricant additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oil additives
(emulsifiers, metalworking; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(esters, C8-12, ethylhexyl esters, lubricant additives; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, dialkyl ethers, base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oil additives
(extreme-pressure, metalworking, elemental sulfur; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol, dialkyl ethers, base oils; oil-in-water emulsions as coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT Biocides

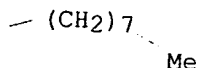
- (lubricating oil additives, metalworking;
oil-in-water emulsions as coolant metalworking cutting oils contg.
dispersed elemental sulfur)
- IT Lubricating oils
(metalworking, coolants; oil-in-water emulsions as coolant metalworking
cutting oils contg. dispersed elemental sulfur)
- IT Lubricating oils
(metalworking, synthetic; oil-in-water emulsions as coolant
metalworking cutting oils contg. dispersed elemental sulfur)
- IT Acetals
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, base oils; oil-in-water emulsions as coolant metalworking
cutting oils contg. dispersed elemental sulfur)
- IT 124-07-2, Caprylic acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(additive; oil-in-water emulsions as coolant metalworking cutting oils
contg. dispersed elemental sulfur)
- IT 112-34-5, Diethylene glycol monobutyl ether 143-28-2, Oleyl alcohol
9004-95-9, Ethoxylated cetyl alcohol 9004-98-2 36653-82-4, Cetyl
alcohol
RL: MOA (Modifier or additive use); USES (Uses)
(additives; oil-in-water emulsions as coolant metalworking cutting oils
contg. dispersed elemental sulfur)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils
contg. dispersed elemental sulfur)
- IT 56-81-5, Glycerin, uses 141-43-5, Monoethanolamine, uses 1310-58-3,
Potassium hydroxide, uses 10043-35-3, Boric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(lubricant additive; oil-in-water emulsions as
coolant metalworking cutting oils contg. dispersed elemental sulfur)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oils; oil-in-water emulsions as coolant metalworking cutting oils
contg. dispersed elemental sulfur)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



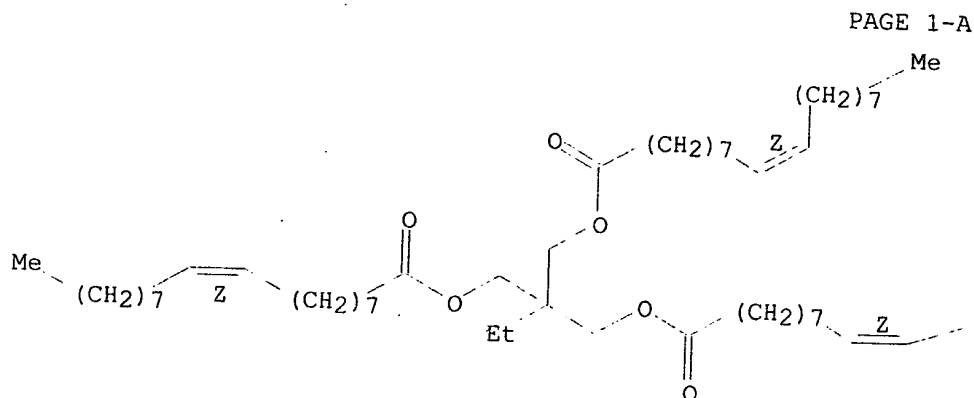
L53 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:659714 HCAPLUS
 DN 133:240490
 TI Water-soluble metalworking oils and their additives
 IN Sasaki, Setsuo; Ueda, Atsuya; Takeda, Kazuyoshi
 PA Kyodo Yushi K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M173-02
 ICS C10M173-02; C10M105-38; C10N030-06; C10N040-22
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55, 56

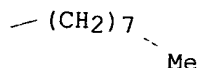
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000256695	A2	20000919	JP 1999-58838	19990305
AB	Water-sol. cutting oils or rolling oils for processing of metal parts comprise (A) the polycondensation reaction products of hydroxy fatty acid and/or its polycondensates 2.5-50, (B) ethylene oxide adducts with polycondensates of C10-44 hydroxy fatty acid (esp., hydroxyoctadecanoic acid or hydroxyoctadecenoic acid) or castor oil-alkylene oxide adducts 2-30, (C) polyol esters such as ethylene glycol diesters, polyethylene glycol diesters or triethanolamine triesters 5-50, and (D) dibasic C10-44 fatty acid esters 2-20 wt.%. The cutting oils or rolling oils show high durability and good performance in various atm.				
ST	metalworking oil additive hydroxy fatty acid polycondensate				
IT	Lubricating oil additives (antifriction, aq. emulsion; water-sol. metalworking oils and their additives)				
IT	Lubricating oil additives (antiwear, aq. emulsion; water-sol. metalworking oils and their additives)				
IT	Castor oil RL: MOA (Modifier or additive use); USES (Uses) (exthoxylated; water-sol. metalworking oils and their additives)				
IT	Lubricating oil additives (extreme-pressure, aq. emulsion; water-sol. metalworking oils and their additives)				
IT	Lubricating oils (metalworking; water-sol., contg. hydroxy fatty acid polycondensates)				

- and polyol esters and ethoxylated castor oil)
- IT **Lubricating oil additives**
(multifunctional, aq. emulsion; water-sol. metalworking oils and their additives)
- IT 106-14-9, 12-Hydroxyoctadecanoic acid
RL: MOA (Modifier or additive use); USES (Uses)
(dimer or tetramer polycondensates; water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)
- IT 53980-88-4D, DA 1550, polycondensation reaction products of hydroxy fatty acid 141087-22-1 245355-60-6 245355-61-7 245355-62-8 245355-63-9 245355-64-0 245355-66-2 245355-68-4 245355-70-8 245355-71-9
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. metalworking oils and their additives)
- IT 25592-38-5, Triethylene glycol dilaurate **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)
- IT **57675-44-2**, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol., contg. hydroxy fatty acid polycondensates and polyol esters and ethoxylated castor oil)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



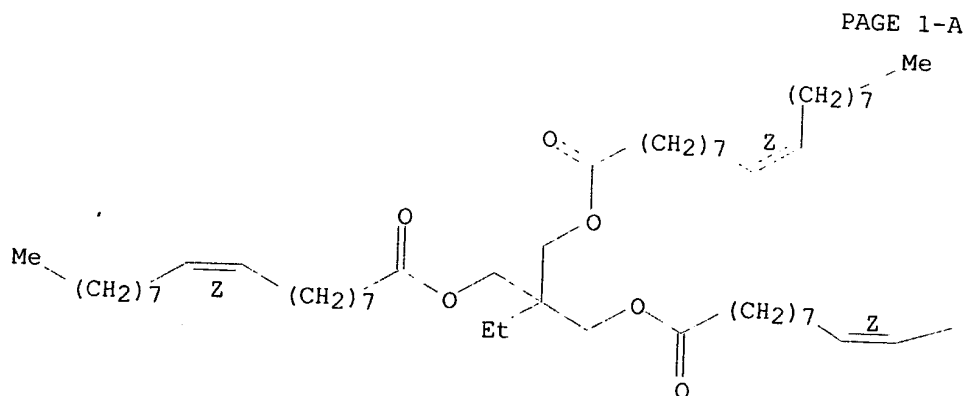


L53 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:544888 HCAPLUS
 DN 133:153021
 TI Cold-rolling lubricating oil composition
 IN Oikawa, Isao; Namiki, Minoru; Moriuchi, Tsutomu; Matsuoka, Toru; Susumu, Osamu; Hirohata, Kazuhiro
 PA Kyodo Yushi K. K., Japan; Kawasaki Steel Corp.
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M169-04
 ICS C10M169-04; C10M101-04; C10M105-32; C10M137-04; C10M135-20; C10N030-06; C10N030-12; C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000219890	A2	20000808	JP 1999-24922	19990202
AB	The title compn. comprises (a) .gtoreq.1 natural oils and fat or synthetic esters as base oils kinematic viscosity 10-100 mm ² /s at 40.degree. and sapon. value .gtoreq.150 mg KOH/g, (b) phosphatides, esp. soybean lecithin or egg-yolk lecithin, (c) phosphite esters and (d) inactive sulfided oil and fat (contg. S .ltoreq.5 wt.%) or polysulfides. The title compn. is superior in lubricity during high-speed rolling, durable and able to prevent depositing between the metal efficiently in the metal contact zone.				
ST	cold rolling lubricating oil compn phosphatide polysulfide; soybean lecithin phosphatide rolling oil additive				
IT	Lubricating oil additives (antiwear; cold-rolling lubricating oil compn.)				
. IT	Glycerophospholipids RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (cold-rolling lubricating oil compn.)				
IT	Lubricating oil additives (dispersants; cold-rolling lubricating oil compn.)				
IT	Lubricating oil additives (extreme-pressure, sulfided oil and fat; cold-rolling lubricating oil compn.)				
IT	Lecithins RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)				

- (soybean or egg-yolk; cold-rolling lubricating oil compn.)
- IT Lard
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (sulfideed; cold-rolling lubricating oil compn.)
- IT 3037-89-6, Distearyl phosphate 7057-92-3, Dilauryl phosphate
 29806-73-3, 2-Ethylhexyl palmitate 57675-44-2, Trimethylol
 propane trioleate
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (base oil; cold-rolling lubricating oil compn.)
- IT 2469-45-6 2690-08-6
 RL: MOA (Modifier or additive use); USES (Uses)
 (poly-; cold-rolling lubricating oil compn.)
- IT 57675-44-2, Trimethylol propane trioleate
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (base oil; cold-rolling lubricating oil compn.)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B

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Me

L53 ANSWER 6 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:493633 HCAPLUS
 DN 133:122631

TI Non-phosphorous, non-metallic anti-wear compound and friction modifier

IN Williamson, Will F.; Rhodes, Blaine

PA International Lubricants, Inc., USA

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C10M105-42

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000042134	A1	20000720	WO 2000-US2248	20000119
	W: AU, BR, CA, IL, JP, MX, NO, NZ				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1163316	A1	20011219	EP 2000-905819	20000119
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1999-234019	A	19990119		
	US 1999-299068	A	19990423		
	WO 2000-US2248	W	20000119		
AB	There is disclosed a friction reducing compd., comprising an intermediate adduct of a first moiety reacted in a first reaction with a second moiety to form the intermediate adduct and further esterifying or amidifying the intermediate adduct with a third moiety in a molar ratio of from .apprx.1:2 to .apprx.2:1, wherein the first moiety is an unsatd. synthetic dienophilic base oil, wherein the second moiety is a compd. having a diene conjugated carbon-carbon double bond and a carboxylic acid moiety or anhydride group, wherein the first reaction comprises mixing the first moiety with the second moiety in a molar ratio of from .apprx.1:2 to .apprx.2:1 under an inert atm.; and wherein the third moiety is a polyhydroxy compd.				
ST	lubricating oil friction modifier				
IT	Lubricating oil additives (antifriction; non-phosphorous, non-metallic anti-wear compd. and friction modifier)				
IT	Lubricating oil additives (antiwear; non-phosphorous, non-metallic anti-wear compd. and friction modifier)				
IT	Lubricating oils (crankcase; non-phosphorous, non-metallic anti-wear compd. and friction modifier)				
IT	Esterification catalysts (non-phosphorous, non-metallic anti-wear compd. and friction modifier)				
IT	Clays, uses Zeolites (synthetic), uses RL: CAT (Catalyst use); USES (Uses) (non-phosphorous, non-metallic anti-wear compd. and friction modifier)				
IT	104-15-4, p-Toluene Sulfonic acid, uses 6303-21-5, Hypophosphorous acid 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses RL: CAT (Catalyst use); USES (Uses) (non-phosphorous, non-metallic anti-wear compd. and friction modifier)				

modifier)
IT 50-70-4, Sorbitol, reactions 107-15-3,
Ethylenediamine, reactions 108-31-6, Maleic anhydride, reactions
123-31-9, Hydroquinone, reactions 57675-44-2,
Trimethylolpropane trioleate
RL: RCT (Reactant)
(non-phosphorous, non-metallic anti-wear compd. and friction
modifier)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

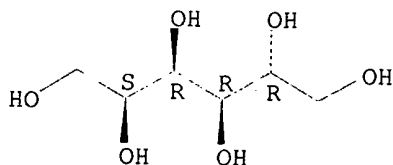
- (1) Baillargeon; US 5284493 A 1994 HCAPLUS
- (2) Funahashi; US 4696869 A 1987
- (3) Hayashi; US 4486573 A 1984 HCAPLUS
- (4) Hayashi; US 4489194 A 1984 HCAPLUS
- (5) Hayashi; US 4509955 A 1985 HCAPLUS
- (6) Katabe; US 4144178 A 1979 HCAPLUS
- (7) Lesuer; US 32174 A 1986 HCAPLUS
- (8) Lindemann; US 3322703 A 1967 HCAPLUS
- (9) Morrison; US 5378249 A 1995 HCAPLUS
- (10) Urushibata; US 5304316 A 1994 HCAPLUS
- (11) Zehler; US 4601840 A 1986 HCAPLUS

IT 50-70-4, Sorbitol, reactions 123-31-9,
Hydroquinone, reactions 57675-44-2, Trimethylolpropane
trioleate
RL: RCT (Reactant)
(non-phosphorous, non-metallic anti-wear compd. and friction
modifier)

RN 50-70-4 HCAPLUS

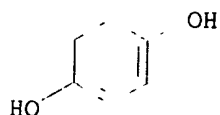
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 123-31-9 HCAPLUS

CN 1,4-Benzenediol (9CI) (CA INDEX NAME)

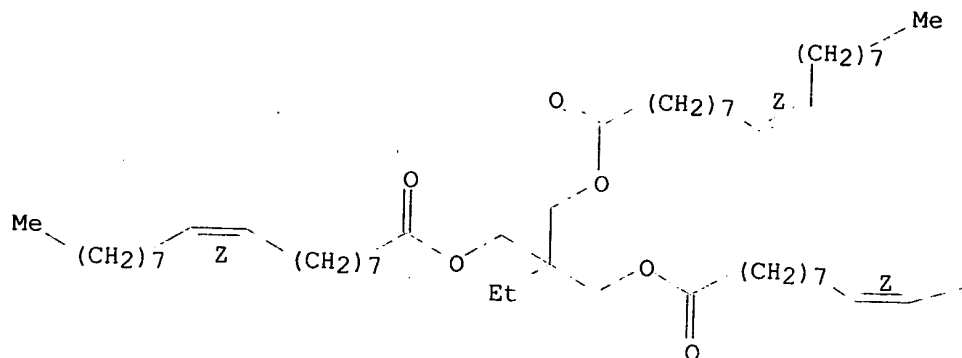


RN 57675-44-2 HCAPLUS

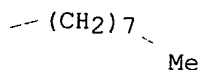
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1999:733025 HCAPLUS
 DN 131:353542
 TI Telomerized complex ester triglycerides
 IN O'Lenick, Anthony J., Jr.
 PA Lambent Technologies Inc, USA
 SO U.S., 7 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C10M129-68
 ICS C10M129-74
 NCL 508485000
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5985806	A	19991116	US 1999-233224	19990119
OS	MARPAT 131:353542				

AB The present invention discloses a group of lubricant additives that have improved oxidative stability, high viscosity and relatively lower cost and that comprise the reaction product of a complex oleate ester telomerized with vegetable oils contg. at least one

linoleyl moiety of the three groups in the triglyceride. The resulting product is a high mol. wt. liq. telomerized complex ester triglyceride having a plurality of branch groups. These groups render the compds. outstanding, highly oxidatively stable lubricants.

ST telomerized complex ester triglyceride lubricant

IT Lubricants

 Lubricating oil additives

 Telomerization

 (telomerized complex ester triglycerides for lubricant compns.)

IT Corn oil

 Cottonseed oil

 Safflower oil

 Soybean oil

 Sunflower oil

 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

 (telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT Fats and Glyceridic oils, uses

 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

 (walnut, telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT Fats and Glyceridic oils, uses

 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

 (wheat germ, telomerized with oleate esters; telomerized complex ester triglycerides for lubricant compns.)

IT 19321-40-5DP, Pentaerythritol tetraoleate, telomerized with vegetable oils

 42222-50-4DP, Neopentylglycol dioleate, telomerized with vegetable oils

 57675-44-2DP, Trimethylolpropane trioleate, telomerized with vegetable oils

 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

 (telomerized complex ester triglycerides for lubricant compns.)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Alexander; US 5731450 1998 HCAPLUS

(2) Anon; GB 2063909 1981 HCAPLUS

(3) D'Alelio; US 3455802 1969 HCAPLUS

(4) Landis; US 5229023 1993 HCAPLUS

(5) Rondenberg; US 5783528 1998 HCAPLUS

(6) Teeter; US 2483791 1949 HCAPLUS

(7) Wynstra; US 3449467 1969 HCAPLUS

IT 57675-44-2DP, Trimethylolpropane trioleate, telomerized with vegetable oils

 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

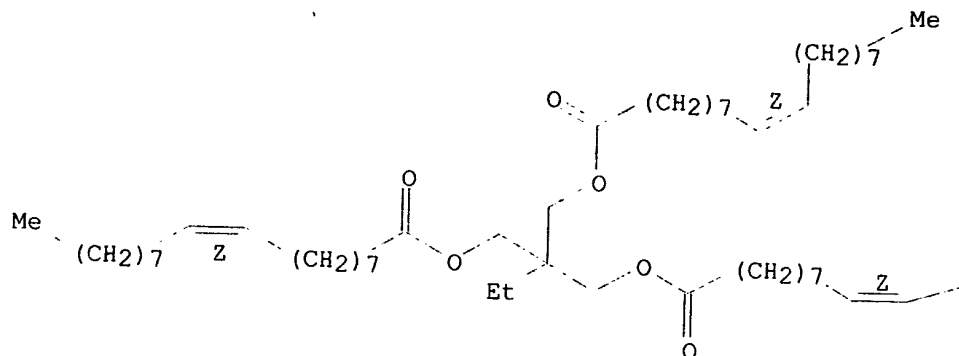
 (telomerized complex ester triglycerides for lubricant compns.)

RN 57675-44-2 HCAPLUS

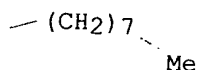
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1999:219964 HCAPLUS
 DN 130:227515
 TI Hair care compositions comprising optical brighteners and silicone compounds
 IN Luo, Xiaochun; Setser, Julia Leet; Mitsumatsu, Arata
 PA The Procter & Gamble Company, USA
 SO PCT Int. Appl., 65 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A61K007-13
 ICS A61K007-06
 CC 62-3 (Essential Oils and Cosmetics)
 FAN.CNT 5

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913846	A1	19990325	WO 1997-US16412	19970917
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG,				

UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
 GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
 GN, ML, MR, NE, SN, TD, TG
 WO 9913823 A2 19990325 WO 1998-IB1381 19980904
 WO 9913823 A3 19990812
 W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
 CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, HR, HU,
 ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
 MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 AU 9888190 A1 19990405 AU 1998-88190 19980904
 BR 9812818 A 20000808 BR 1998-12818 19980904
 EP 1028697 A2 20000823 EP 1998-939798 19980904
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI
 JP 2001516701 T2 20011002 JP 2000-511451 19980904
 PRAI WO 1997-US16412 A 19970917
 WO 1997-US16615 A 19970917
 WO 1997-US16617 A 19970917
 WO 1997-US16618 A 19970917
 WO 1997-US16619 A 19970917
 WO 1998-IB1381 W 19980904
 AB Disclosed are hair care compns. comprising: (a) an effective amt. of an
 optical brightener selected from the group consisting of
 polystyrylstilbenes, **hydroxycoumarins**, triazoles, pyrazolines,
 oxazoles, pyrenes, porphyrins, imidazoles, and mixts. thereof; and (b) a
 silicone compd. Further disclosed are shampoo compns. comprising: (a) an
 effective amt. of an optical brightener; (b) a deterative surfactant
 suitable for cleansing the hair; and (c) a silicone compd. A shampoo
 contained disodium 4,4-bis(2-sulfostyryl)biphenyl 0.8, silicones 2,
 ammonium laureth-3 sulfate 12, ammonium lauryl sulfate 2, cocamide MEA
 1.5, DMDM hydantoin 0.2, NaH2PO4/Na2HPO4 0-0.5, and deionized water q.s.
 to 100 %.
 ST shampoo optical brightener polysiloxane surfactant; stilbene optical
 brightener polysiloxane hair prepn
 IT Quaternary ammonium compounds, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
 (Uses)
 (alkyltrimethyl, chlorides; shampoos contg. optical brighteners and
 silicone compds. and surfactants)
 IT Fluorescent brighteners
 Hair preparations
 Shampoos
 (shampoos contg. optical brighteners and silicone compds. and
 surfactants)
 IT Polysiloxanes, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
 (Uses)
 (shampoos contg. optical brighteners and silicone compds. and
 surfactants)
 IT 107-43-7D, coco amidopropyl deriv.
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
 (Uses)
 (Coco amidopropylbetaines; shampoos contg. optical brighteners and
 silicone compds. and surfactants)
 IT 56-86-0D, L-Glutamic acid, N-acyl derivs., triethanolamine salt 87-01-4,

4-Methyl-7-dimethylaminocoumarin 137-16-6, Sodium lauroyl sarcosinate 529-84-0, 4-Methyl-6,7-dihydroxycoumarin 627-83-8, Ethylene glycol distearate 2235-54-3, Ammonium lauryl sulfate 2397-00-4, 4,4'-Bis(5-methylbenzoxazol-2-yl)stilbene 2744-49-2, Blankophor dcb 3271-22-5, 4193-55-9, Tinopal UNPA-GX 4434-38-2, 9002-92-0, 9004-62-0, Hydroxyethyl cellulose 9005-67-8, Polysorbate 60 20182-63-2, Stearamidopropyldimethylamine 26590-05-6, Polyquaternium-7 27344-41-8, Tinopal CBX 32612-48-9, Ammonium laureth sulfate 57675-44-2, Trimethylolpropane trioleate 62125-22-8, Pentaerythritol tetraisostearate 68541-50-4, Trimethylolpropane triisostearate 81859-24-7, Polyquaternium-10 82853-33-6, Varisoft 110 138757-67-2, Carbopol 980 163063-14-7, Aculyn22 180032-23-9, Polysurf 67 192582-78-8, Glucquat 125 208728-31-8, Plantacare 2000UP

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(shampoos contg. optical brighteners and silicone compds. and surfactants)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Colgate Palmolive Co; WO 9406409 A 1994 HCAPLUS
- (2) Corning, D; EP 0336709 A 1989 HCAPLUS
- (3) Curtis Helene Ind Inc; EP 0717978 A 1996 HCAPLUS
- (4) Gen Electric; GB 2307639 A 1997 HCAPLUS
- (5) Grand, P; US 4312855 A 1982 HCAPLUS
- (6) Henkel Kgaa; DE 2632810 A 1978 HCAPLUS
- (7) Kao Corp; EP 0733355 A 1996 HCAPLUS
- (8) Kao Corp; EP 0834303 A 1998 HCAPLUS
- (9) Unilever Ltd; GB 1328108 A 1973
- (10) Wella Ag; EP 0754443 A 1997 HCAPLUS

IT 57675-44-2, Trimethylolpropane trioleate

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

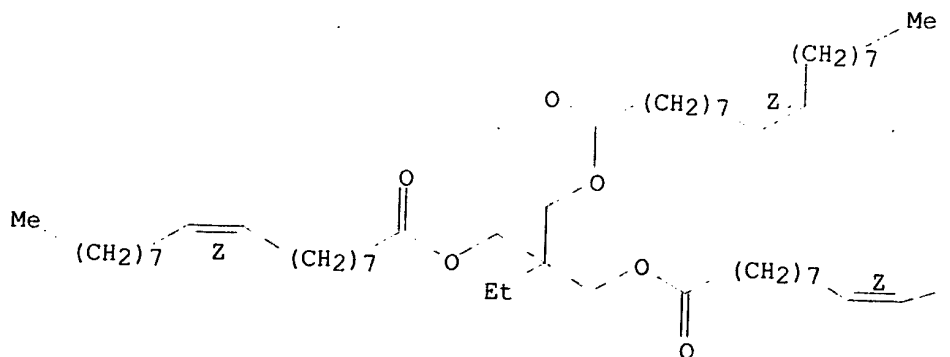
(shampoos contg. optical brighteners and silicone compds. and surfactants)

RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



--(CH₂)₇--
Me

L53 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:139432 HCAPLUS
DN 130:184720

TI Lubricants for plastic working of metals
IN Sakai, Kenji; Aizawa, Yuji; Goto, Koichi
PA Kyodo Oil and Fats Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

IC ICM C10M159-22

ICS C10M129-40; C10M129-58; C10M129-93; C10M135-06; C10M135-18;
C10M135-22; C10M135-36; C10M137-10; C10M139-00; C10M163-00;
C10N010-02; C10N010-04; C10N010-06; C10N010-08; C10N020-00;
C10N030-04; C10N030-06; C10N030-08; C10N040-24

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 55, 56

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11050078	A2	19990223	JP 1998-154223	19980603
JP 1997-146277		19970604		

AB Lubricants for plastic working of metals contain highly basic
alk. earth salicylates, antiwear additives
and base oils.

ST lubricant metal plastic working; overbased calcium salicylate
metalworking lubricant

IT Polysulfides

RL: MOA (Modifier or additive use); USES (Uses)
(alkyl, antiwear additive; lubricants for
plastic working of metals)

IT Lubricating oil antiwear additives
(antiwear additive; lubricants for
plastic working of metals)

IT Naphthenic acids, uses

RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, antiwear additive;
lubricants for plastic working of metals)

IT Lubricants

Lubricating oils

(forging; lubricants for plastic working of metals)

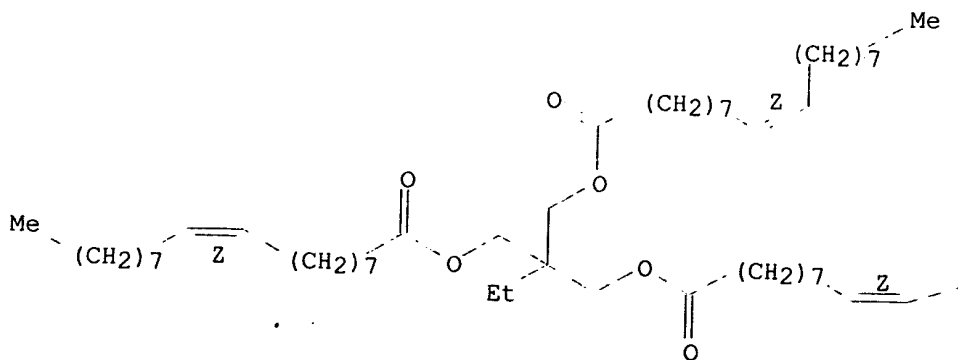
IT Metalworking oils

(lubricants for plastic working of metals)

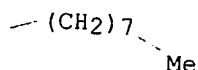
- IT Tallow fatty acids
RL: MOA (Modifier or additive use); USES (Uses)
(sodium salts, **antiwear additive**;
lubricants for plastic working of metals)
- IT Fats and Glyceridic oils, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sulfurized, **antiwear additive**; **lubricants**
for plastic working of metals)
- IT Fatty acid salts
RL: MOA (Modifier or additive use); USES (Uses)
(tallow fatty acid sodium salts, **antiwear additive**;
lubricants for plastic working of metals)
- IT 108-30-5D, Succinic anhydride, alkenyl derivs. 136-53-8, Zinc
2-ethylhexanoate 149-30-4D, 2-Mercaptobenzothiazole, metal salts
594-07-0D, Carbamodithioic acid, dialkyl esters, metal salts 637-12-7,
Aluminum stearate 688-37-9, Aluminum oleate 7440-31-5D, Tin, alkyl
sulfide derivs. 15834-33-0D, Phosphorodithioic acid, dialkyl esters,
zinc salts
RL: MOA (Modifier or additive use); USES (Uses)
(**antiwear additive**; **lubricants** for
plastic working of metals)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(base oil; **lubricants** for plastic working of metals)
- IT 69-72-7D, Salicylic acid, derivs., alk. earth metal
salts, overbased
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(**lubricants** for plastic working of metals)
- IT 37268-90-9, S45C, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**lubricants** for plastic working of metals)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(base oil; **lubricants** for plastic working of metals)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

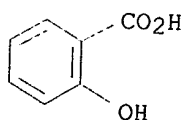
PAGE 1-A



PAGE 1-B



IT 69-72-7D, Salicylic acid, derivs., alk. earth metal salts, overbased
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (lubricants for plastic working of metals)
 RN 69-72-7 HCAPLUS
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



L53 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:674995 HCAPLUS
 DN 129:345281
 TI Metalworking oil compositions
 IN Tsuchitani, Masanori; Oikawa, Isao; Sano, Mizuho
 PA Kyodo Oil and Fats Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M137-04
 ICS C10M159-02; C10N030-04; C10N040-24; C10N050-02
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55, 56
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10279976	A2	19981020	JP 1997-83667	19970402
AB	Water-sol. metalworking oil compns. contain base oils, surfactants and lecithins.				
ST	metalworking oil aq compn surfactant lecithin				
IT	Metalworking oils Nonionic surfactants (aq. metalworking oil compns.)				
IT	Egg yolk lecithins Lecithins				

Soya lecithins
 RL: MOA (Modifier or additive use); USES (Uses)
 (aq. metalworking oil compns.)

IT Palm oil
 Tallow
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material
 use); USES (Uses)
 (base oils contg.; aq. metalworking oil compns.)

IT Metalworking
 (plastic; aq. metalworking oil compns.)

IT Fats and Glyceridic oils, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (sulfurized; aq. metalworking oil compns.)

IT Ethoxylated hydrogenated castor oil
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material
 use); USES (Uses)
 (surfactant; aq. metalworking oil compns.)

IT Metalworking oils
 (water-based emulsions; aq. metalworking oil compns.)

IT Emulsions
 (water-based metalworking oils; aq. metalworking oil compns.)

IT 102-71-6, Triethanolamine, uses 112-70-9, Tridecyl alcohol 112-80-1,
 Oleic acid, uses 128-37-0, BHT, uses 21302-09-0, Dilauryl hydrogen
 phosphite
 RL: MOA (Modifier or additive use); USES (Uses)
 (aq. metalworking oil compns.)

IT 109-36-4, Octyl stearate 16958-85-3, Octyl palmitate 57675-44-2
 , Trimethylolpropane trioleate
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material
 use); USES (Uses)
 (base oils contg.; aq. metalworking oil compns.)

IT 1338-43-8, Sorbitan monooleate 9005-07-6, Polyethylene glycol dioleate
 9005-70-3, Polyethylene glycol sorbitan trioleate 9016-45-9,
 Polyethylene glycol nonylphenol ether 69070-98-0, Polyethylene glycol
 sorbitol tetraoleate
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material
 use); USES (Uses)
 (surfactant; aq. metalworking oil compns.)

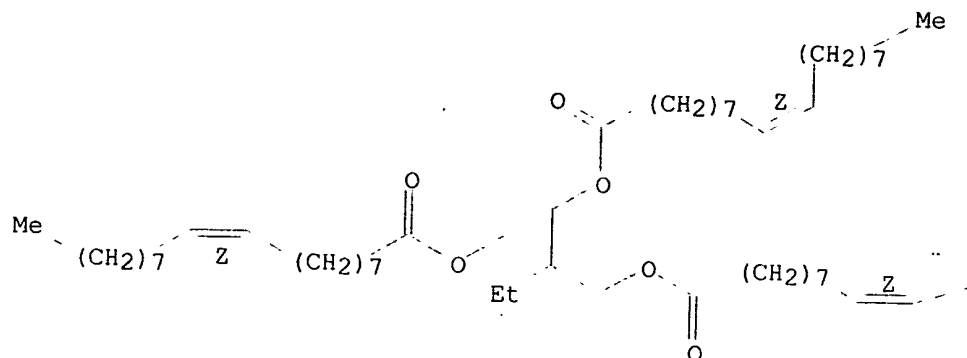
IT 57675-44-2, Trimethylolpropane trioleate
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material
 use); USES (Uses)
 (base oils contg.; aq. metalworking oil compns.)

RN 57675-44-2 HCAPLUS

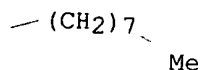
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
 octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



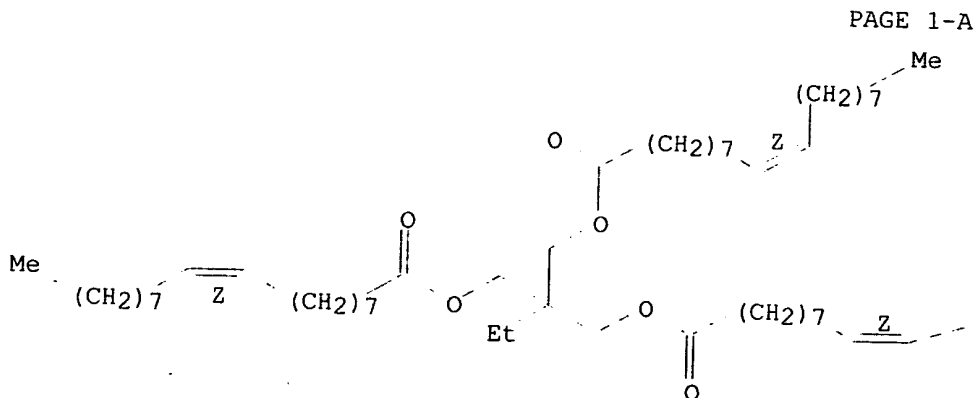
L53 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:642140 HCAPLUS
 DN 129:318555
 TI Lubricants for high-temperature plastic processing
 IN Yamanaka, Yasuo; Kinohara, Naoki; Ihara, Hajime; Kamiyashiki, Hiroshi
 PA Kyodo Oil and Fats Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M129-28
 ICS C10M159-22; C10N010-04; C10N020-04; C10N030-00; C10N030-04;
 C10N030-06; C10N030-08; C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55, 56
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10259391	A2	19980929	JP 1997-339691	19971210
PRAI	JP 1997-5224		19970116		

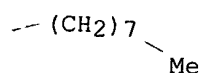
 AB Lubricants for high-temp. plastic working of metals contain branched fatty acids or their salts. The lubricants can further contain highly basic alk. earth salicylates.

- ST lubricant high temp plastic metalworking; branched fatty acid lubricant hot metalworking; salicylate alk earth plastic metalworking lubricant
- IT Rape oil
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(branched fatty acids; lubricants for high-temp. plastic processing)
- IT Metalworking oils
(lubricants for high-temp. plastic processing)
- IT Lubricating oils
(rolling oils, hot; lubricants for high-temp. plastic processing)
- IT 26896-18-4, Isononanoic acid
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(Cekanoic C-9 Acid; lubricants for high-temp. plastic processing)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)
- IT 69-72-7D, Salicylic acid, alk. earth salts, overbased
5422-52-6, Isocarb 12 30399-84-9, Emersol 871 181788-76-1, OSCA 431
181788-77-2, OSCA 435 181788-78-3, OSCA 438 214828-62-3 214828-65-6
214828-68-9, Isopentacontanoic acid
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(lubricants for high-temp. plastic processing)
- IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants for high-temp. plastic processing)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for high-temp. plastic processing)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

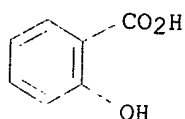
Double bond geometry as shown.



PAGE 1-B



IT 69-72-7D, Salicylic acid, alk. earth salts, overbased
 RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES
 (Uses)
 (lubricants for high-temp. plastic processing)
 RN 69-72-7 HCAPLUS
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



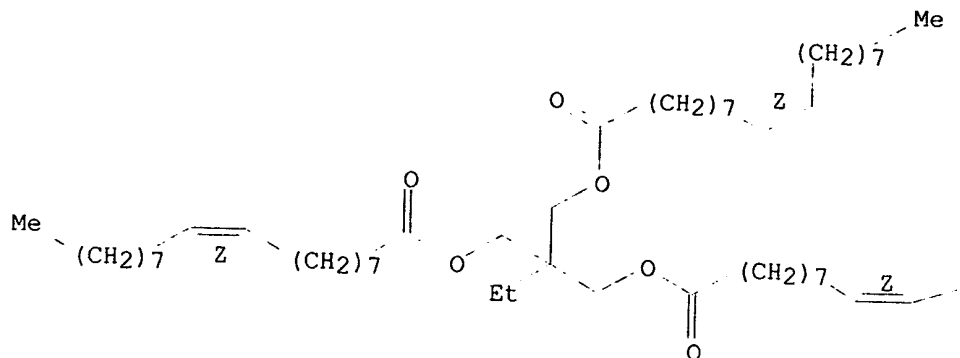
L53 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:392550 HCAPLUS
 DN 129:83607
 TI Lubricants for metal plastic working
 IN Sakai, Kenji; Goto, Koichi
 PA Kyodo, Yushi, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M169-04
 ICS C10M169-04; C10M159-22; C10M119-20; C10M119-28; C10N010-04;
 C10N030-04; C10N030-06; C10N030-08; C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55, 56
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10158676	A2	19980616	JP 1996-319159	19961129
AB	Lubricants for plastic working of metals, e.g., steel, contain base oils, highly basic alk. earth metal salts of org. acids, and carbohydrates.				
ST	lubricant metal plastic working steel; carbohydrate basic alk earth salt lubricant				
IT	Sulfonic acids, uses				
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				
	(alk. earth metal salts, overbased; lubricants for metal plastic				

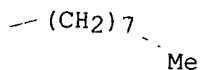
- working)
- IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(alk. earth salts, overbased; lubricants for metal plastic working)
- IT Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
- IT Alkaline earth salts
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(carboxylates, overbased; lubricants for metal plastic working)
- IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di-tert-dodecyl, load-carrying additives; lubricants for metal plastic working)
- IT Lubricating oil antiwear additives
Metalworking oils
(lubricants for metal plastic working)
- IT Carbohydrates, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(lubricants for metal plastic working)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
- IT 6990-43-8, Zinc dibutyldithiophosphate
RL: MOA (Modifier or additive use); USES (Uses)
(load-carrying additive; lubricants for metal plastic working)
- IT 57-50-1, Sucrose, uses 108-95-2D, Phenol, derivs., alk. earth salts, highly basic 9005-25-8, Tapioca, uses 9005-32-7D, Alginic acid, salts 9015-14-9D, Cellulose phosphate, salts 11078-31-2, Glucomannan 11120-02-8D, Starch phosphate, salts 12619-70-4, Cyclodextrin 53241-15-9, Starch phosphate sodium salt 175834-20-5, Bryton C 400 187112-05-6, ADX 410J 187112-34-1, LUbrizol 5341
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(lubricants for metal plastic working)
- IT 37268-90-9, S 45C, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants for metal plastic working)
- IT 9004-34-6, Cellulose, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(powder; lubricants for metal plastic working)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; lubricants for metal plastic working)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1998:389252 HCAPLUS

DN 129:43182

TI Arc welding tip antifriction agents of lubricants

IN Komatsu, Tadao; Fujimoto, Akihiko; Yamamoto, Michihiro; Soda, Takao

PA Ishihara Yakuhin Co., Ltd., Japan; Matsumura Sekiyu Kenkyusho

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C10M105-32

ICS B23K009-26; C10M147-00; C10N030-02; C10N040-20

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 56

FAN.CNT 1

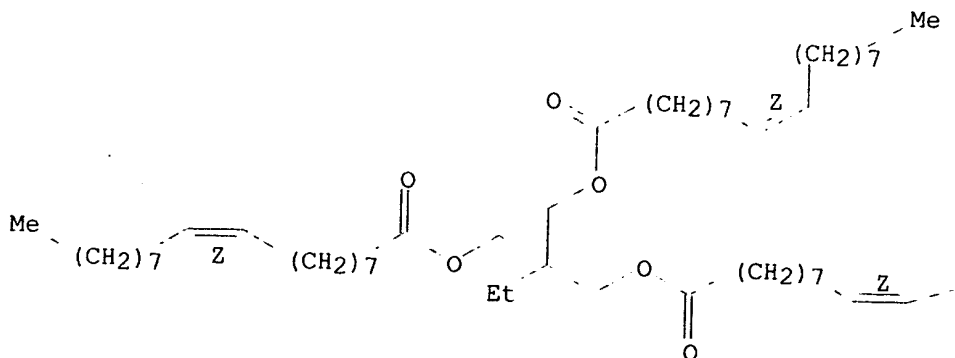
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10158669	A2	19980616	JP 1996-334777	19961129
AB	The lubricants contain esters 1-70, chlorinated components 10-70, and viscosity index improvers 1-20%. The lubricants are used to prevent wear of welding tip hole formed by friction between tip and wire in arc welding.				
ST	arc welding tip antifriction agent lubricant; ester arc welding tip				

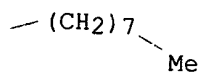
KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

- lubricant; chlorinated component arc welding tip lubricant; viscosity index improver arc welding lubricant
- IT Welding of metals
(arc; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT Lard
RL: TEM (Technical or engineered material use); USES (Uses)
(chlorinated; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT Paraffin waxes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(chloro; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT Lubricants
Lubricating oil viscosity improvers
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT Esters, uses
Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT 79-41-4D, Methacrylic acid, alkyl esters, polymers
RL: MOA (Modifier or additive use); USES (Uses)
(viscosity improver; lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants contg. esters, chlorinated components, and viscosity index improvers for arc welding tip)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





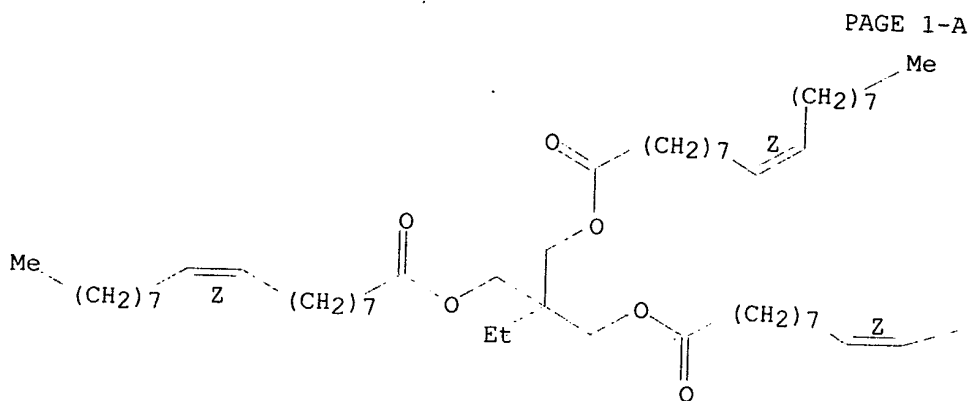
L53 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:547400 HCAPLUS
 DN 127:137973
 TI Lubricants with carbon dioxide and polar organic compounds in mechanical working of solids
 IN Skold, Rolf
 PA Skold, Rolf, Swed.
 SO PCT Int. Appl., 11 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C10M129-02
 ICS B23Q011-10; F16N015-00
 CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
 Section cross-reference(s): 38, 56, 57
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9725393	A1	19970717	WO 1996-SE1701	19961219
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, VZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	SE 9600042	A	19970706	SE 1996-42	19960105
	SE 505859	C2	19971020		
	AU 9713235	A1	19970801	AU 1997-13235	19961219
	EP 901510	A1	19990317	EP 1996-944719	19961219
	R:	AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE			
	BR 9612424	A	19990713	BR 1996-12424	19961219
	JP 2000505826	T2	20000516	JP 1997-525126	19961219
	US 6083887	A	20000704	US 1998-101156	19981028
PRAI	SE 1996-42	A	19960105		
	WO 1996-SE1701	W	19961219		
AB	The lubricants for mech. working of metals, plastics, and glass with cooling contain: (a) liq. CO ₂ as the carrier and coolant; and (b) polar org. compds. sol. or dispersible at preferably 0.5-4% in the CO ₂ , and selected from the compds. contg. .gtoreq.1 O atom and having the b.p. >200.degree. and preferably the m.p. <5.degree.. The polar groups are selected from ether, hydroxyl, carboxyl, ester, and/or amido group. The liq. lubricant mixt. can be fed through internal channels in cutting tools				

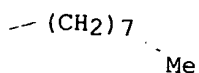
- (esp. drill bits), the liq. CO₂ is expanded in <10 s near the cutting surface for cooling, and the polar compd. provides lubrication in cutting. Drilling tests at the surface speed of 46 m/s and the bit diam. of 6 mm were conducted with the liq. CO₂ carrier contg. 2% polar compd., and showed the productivity (holes/bit) of 245 with Me oleate or 89 with oleic acid, vs. only 33 with the CO₂ or air.
- ST liq carbon dioxide carrier polar lubricant; cutting lubricant liq carbon dioxide coolant; oleic acid lubricant carbon dioxide carrier; methyl oleate lubricant carbon dioxide carrier
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C9-11, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)
- IT Coco fatty acids
RL: MOA (Modifier or additive use); USES (Uses)
(Me esters, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)
- IT Amides, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(N-(hydroxyalkyl), polar, lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)
- IT Fatty acid esters
RL: MOA (Modifier or additive use); USES (Uses)
(coco, Me esters, lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)
- IT **Lubricating oil additives**
(coolants, carbon dioxide for; lubricant mixts. with polar org. compds. in liq. carbon dioxide coolant for mech. working of solids)
- IT Lubricants
(cooling mixt. with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)
- IT Glass, processes
Plastics, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(cutting of; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for cutting)
- IT Metalworking
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricant s in; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for cutting)
- IT Polyoxyalkylenes, uses
N,N-Bis(hydroxyethyl) coco amides
RL: MOA (Modifier or additive use); USES (Uses)
(lubricants contg.; lubricating mixts. with polar org. compds. in liq. carbon dioxide coolant for cutting)
- IT Drill bits
(lubricants for; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)
- IT Alcohols, processes
Carboxylic acids, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)
- IT Organic compounds, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polar, lubricants with; lubricant mixts. with polar org. compds. in liq. carbon dioxide carrier for mech. working of solids)
- IT 124-38-9, Carbon dioxide, processes

- RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (liq., lubricating mixt. with; lubricant mixts. with polar org. compds.
 in liq. carbon dioxide carrier for mech. working of solids)
- IT 111-42-2D, Diethanolamine, coco alkyl derivs. 111-58-0D, ethoxylated
 112-35-6, Triethylene glycol monomethyl ether 112-62-9D, Methyl oleate,
 ethoxylated 112-80-1, Oleic acid, uses 123-79-5, Adipic acid, dioctyl
 ester 9005-07-6, Polyethylene glycol, dioleate 10024-47-2, Isobutyl
 oleate 25322-68-3 30399-84-9, Isostearic acid 34590-94-8,
 Dipropylene glycol monomethyl ether 36936-60-4 37310-83-1, Oleyl
 phosphate 57675-44-2, Trimethylolpropane trioleate
- RL: MOA (Modifier or additive use); USES (Uses)
 (lubricants contg.; lubricating mixts. with polar org. compds. in liq.
 carbon dioxide coolant for cutting)
- IT 57675-44-2, Trimethylolpropane trioleate
- RL: MOA (Modifier or additive use); USES (Uses)
 (lubricants contg.; lubricating mixts. with polar org. compds. in liq.
 carbon dioxide coolant for cutting)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
 octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B



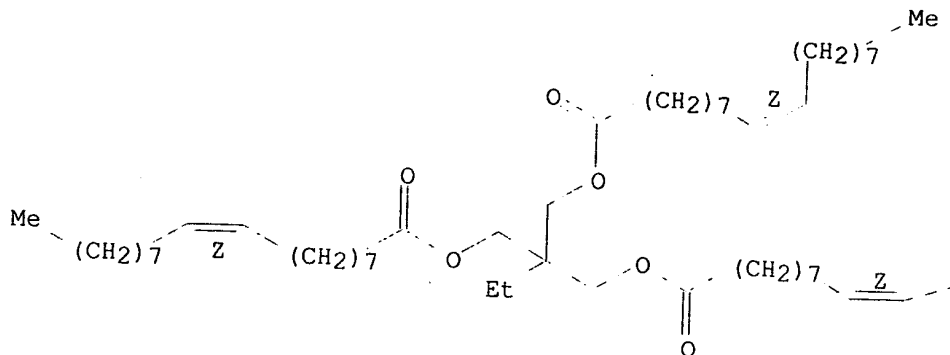
- L53 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:509740 HCAPLUS
DN 127:150783
TI Biodegradable metalworking and hydraulic fluids
AU Zeman, Alfred
CS Universitat Bundeswehr Munchen, Neubiberg, D-85577, Germany
SO Tribol. Schmierungstech. (1997), 44(4), 160-165
CODEN: TRSCEM; ISSN: 0724-3472
PB Vincentz
DT Journal
LA German
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
AB Anal. investigations on the detn. of components, additives, and aging state of biodegradable metalworking and hydraulic fluids are presented. Fast screening of com. products by chem. ionization (NH3)-mass spectrometry, CI(NH3)-MS, showed that most oils were pure rapeseed oils or mixts. of rapeseed oil and 2-ethylhexyl esters of rapeseed oil fatty acids or oleic acid. Most of the investigated hydraulic fluids had a rapeseed oil or trimethylolpropane trioleate esterbase. Identification and quantification of additives was performed by gel permeation chromatog. (GPC) with refraction index, diode array, and fluorescence detection. Pressure differential scanning calorimetry was suitable to assess the aging state of used oils. abs: this can also be done by detn. of oligo-/polymer concns. in the oils by GPC.
- ST biodegradable lubricant hydraulic fluid analysis aging; rapeseed oil metalworking hydraulic fluid; mass spectrometry biodegradable lubricant characterization
- IT Gel permeation chromatography
Mass spectrometry
(characterization of biodegradable metalworking oils and hydraulic fluids by)
- IT Hydraulic fluids
Lubricating oil antioxidants
Lubricating oil antiwear additives
Metalworking oils
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
- IT Rape oil
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
- IT Fatty acid esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(ethylhexyl ester; characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
- IT 112-80-1D, Oleic acid, 2-ethylhexyl ester 589-81-1D, 2-Ethylhexane, esters with oleic acid and rapeseed oil 57675-44-2D, Trimethylolpropane trioleate, esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)
- IT 57675-44-2D, Trimethylolpropane trioleate, esters
RL: ANT (Analyte); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(characterization of biodegradable metalworking oils and hydraulic fluids by mass spectrometry and gel permeation chromatog.)

RN 57675-44-2 HCAPLUS

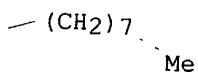
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:141040 HCAPLUS
 DN 126:146142
 TI Extreme-pressure additive, friction coefficient modifier and functional fluids
 IN Takagi, Fumiaki; Abe, Kazuaki
 PA Idemitsu Kosan Co., Ltd., Japan; Takagi, Fumiaki; Abe, Kazuaki
 SO PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C10M105-20
 ICS C10M105-24; C10M105-32; C10M129-24; C10M129-32; C10M129-68; C10N030-06; C10N040-08; C10N040-20
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 50, 55, 59
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI	WO 9641851	A1	19961227	WO 1996-JP1557	19960607
	W: JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 842999	A1	19980520	EP 1996-916344	19960607
	R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
	EP 1174488	A1	20020123	EP 2001-121749	19960607
	R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
	US 6008168	A	19991228	US 1997-952974	19971208
	US 6136761	A	20001024	US 1999-290172	19990413
	US 6310012	B1	20011030	US 2000-650902	20000830
PRAI	JP 1995-141555	A	19950608		
	EP 1996-916344	A3	19960607		
	WO 1996-JP1557	W	19960607		
	US 1997-952974	A3	19971208		
	US 1999-290172	A3	19990413		
AB	This invention relates an extreme-pressure additive and a friction coeff. modifier each composed of a compd. having the general formula $-(O:C)C(R1):C(R2)R3-$ (R1-3 are each H or Me, .gtoreq.1 of R2 and R3 = H) in the mol.; a load-carrying carrier fluid, a wear -resistant fluid and a thermally polymerizable substance contg. them resp.; and preferably a flame-retardant fluid contg. the compd. The above additive and modifier are excellent in performance and are suitably useful for lubricating oils, metalworking oils and hydraulic oils. When exposed to high temp., the above flame-retardant fluid is thermally polymd. to inhibit the vaporization of flammable substances, thus preventing a fire. Therefore, the fluid is suitable for lubricating oils, metalworking oils, hydraulic oils, heat treatment oils, grease, etc.				
ST	extreme pressure additive friction modifier lubricant ; functional fluid additive friction modifier antiwear ; hydraulic fluid extreme pressure additive antifriction; metalworking oil extreme pressure additive modifier; flame retardant fluid thermal polymerizable compd; safety fire prevention flame retardant fluid				
IT	Fireproofing agents Hydraulic fluids Lubricating greases Lubricating oils Metalworking oils (extreme-pressure additive and friction coeff. modifier for functional fluids of)				
IT	Extreme-pressure lubricating oil additives (friction modifiers; contg. thermally polymerizable compds. for functional fluids)				
IT	Electric insulators Heat treatment (oils; extreme-pressure additive and friction coeff. modifier for functional fluids of)				
IT	Fire (prevention; extreme-pressure additive and friction coeff. modifier for functional fluids in)				
IT	88-24-4, 2,2'-Methylenebis(4-ethyl-6-tert-butylphenol) 90-30-2, N-Phenyl-.alpha.-naphthylamine 150-76-5, p-Methoxyphenol 6683-19-8, Pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] RL: MOA (Modifier or additive use); USES (Uses) (additive; extreme-pressure additive and friction coeff. modifier for functional fluids)				
IT	53894-23-8, Triisononyl trimellitate 57675-44-2,				

Trimethylolpropane trioleate 186676-65-3

RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; extreme-pressure additive and friction coeff. modifier for functional fluids)

IT 502-44-3D, 2-Oxepanone, neopentyl glycol **hydroxypivalate diacrylate** modified by 26570-48-9 28961-43-5 30145-51-8D,
Neopentyl glycol **hydroxypivalate diacrylate**,
caprolactone-modified 52408-84-1 53879-54-2, Propoxylated
trimethylolpropane **triacylate** 186552-90-9 186552-91-0
186676-59-5 186676-60-8 186676-61-9 186676-62-0 186676-63-1
186676-64-2

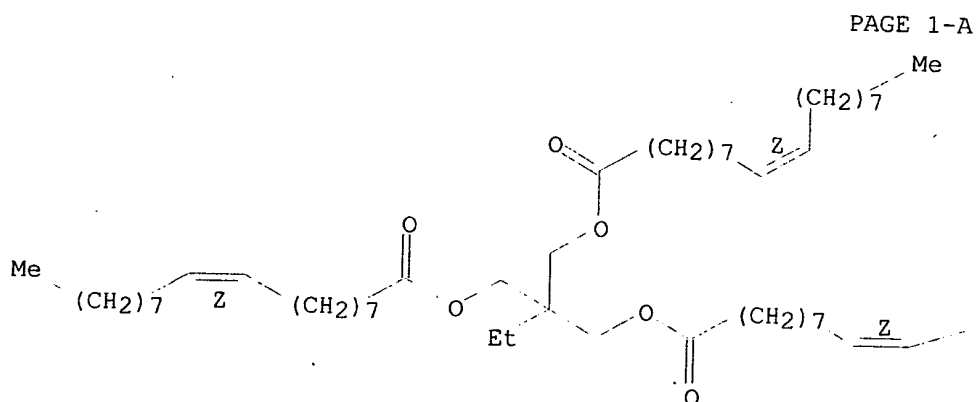
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(extreme-pressure additive and friction coeff. modifier for functional fluids)

IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(base oil; extreme-pressure additive and friction coeff. modifier for functional fluids)

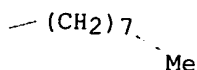
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



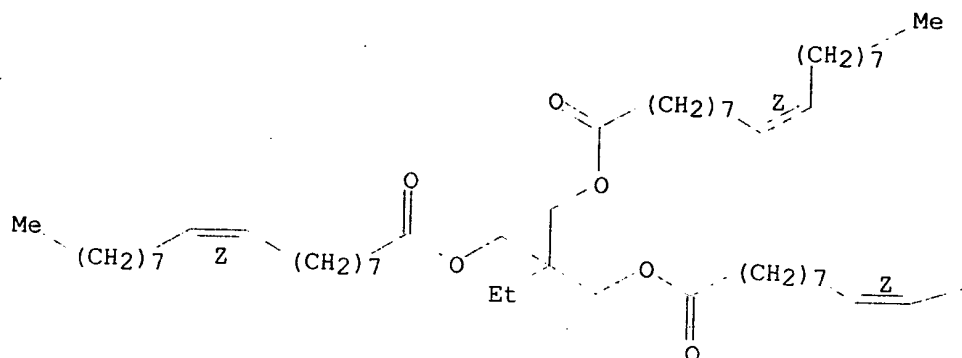
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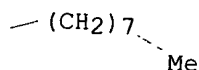
L53 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:131313 HCAPLUS
DN 126:227388
TI Some experience with biodegradable lubricants
AU Legisa, I.; Picek, M.; Nahal, K.
CS INA d.d. Rafinerija, Zagreb, Croatia
SO Synth. Lubr. (1997), 13(4), 347-360
CODEN: SYLUEB; ISSN: 0265-6582
PB Leaf Coppin Publishing Ltd.
DT Journal
LA English
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
AB The development and properties of some biodegradable lubricating greases (contg. lithium and calcium soaps) and hydraulic oils, both based on synthetic esters and rapeseed oil, were presented. Base esters evaluated were refined rapeseed oil, unsatd. fatty acid esters, satd. fatty acid esters, and trimethylolpropane trioleate, optionally contg. additive packages. It was not possible to achieve the desired oxidative and stability properties for hydraulic oils derived from rapeseed oil, esp. for use at >60.degree.. Biodegradable hydraulic oils comparable to petroleum-based high-performance can be developed from selected synthetic esters, but only at a cost 2-4 times higher. Lubricating greases with properties comparable to petroleum-based greases are possible from biodegradable synthetic sources.
ST biodegradable lubricating grease hydraulic oil; rapeseed oil synthetic lubricating grease; ester synthetic biodegradable hydraulic oil; fatty acid ester biodegradable hydraulic oil
IT Lubricants
(biodegradable; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Fatty acid esters
Rape oil
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Unsaturated fatty acids
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(esters; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT Hydraulic fluids
Lubricating greases
(synthetic, biodegradable; development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
IT 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(development and properties of synthetic ester-based biodegradable lubricating greases and hydraulic oils)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:660764 HCAPLUS
 DN 125:280510
 TI Water-soluble rolling oil for stainless steel sheet rolling
 IN Yamamoto, Hideo; Matsumoto, Keiji
 PA Sumitomo Metal Ind, Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M173-00
 ICS B21B003-02; B21B027-10
 ICI C10M173-00, C10M105-32, C10M137-10, C10M137-02, C10M125-16, C10M129-04,
 C10M129-22; C10N020-00, C10N020-02, C10N020-06, C10N030-00, C10N030-06,
 C10N030-08, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08225795	A2	19960903	JP 1995-30915	19950220

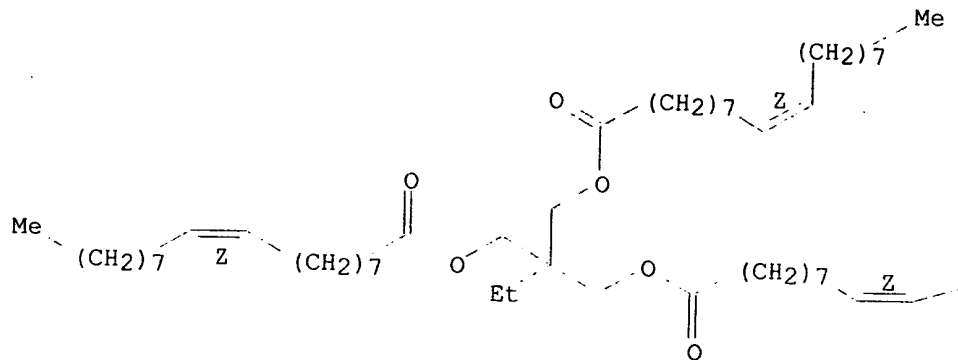
AB The rolling oils, manufd. from synthetic ester base oils having viscosity

- 5-50 cSt at 40.degree. and contg. 3-10 wt.% emulsions from C1-18 alkylamine salts mono- or di-C6-18 alkyl phosphates and/or phosphites, contain 0.005-0.1 wt.% in the emulsions or 0.5-5 wt.% in the oils of C4-18 alcs. and/or H2O2, peracetates, perbenzoates, nitrates, and/or nitrites. The rolling oils may contain alkylamines and/or alkanolamines, and have 3-15 vol.% emulsion concn. and pH .gtoreq.8.5.
- ST water sol rolling lubricating oil; phosphate alkylamine extreme pressure lubricating oil; phosphite alkylamine extreme pressure lubricating oil; alc oxidizer rolling lubricating oil
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C4-18, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amino, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT Lubricating oil additives
(metalworking, oxidizers; water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT Lubricating oils
(rolling oils, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT Fatty acids, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tallow, esters, water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT 71-36-3, 1-Butanol, uses 75-04-7, Monoethylamine, uses 102-71-6, Triethanolamine, uses 109-89-7, uses 111-86-4, Monoctylamine 112-30-1, Decyl alcohol 112-90-3, Oleylamine 121-44-8, uses 143-28-2 1116-76-3, Trioctylamine 1120-48-5, Dioctylamine 6484-52-2, Ammonium nitrate, uses 7722-84-1, Hydrogen peroxide, uses 40165-68-2 171407-37-7 182939-47-5 182939-48-6 182939-49-7 182939-50-0 182939-51-1 182939-52-2 182939-53-3 182939-54-4 182939-55-5 182939-56-6 182939-57-7 182971-47-7
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT 104-76-7D, 2-Ethylhexyl alcohol, esters with tallow fatty acids 111-06-8, Butyl palmitate 112-61-8, Methyl stearate 624-03-3, Ethylene glycol dipalmitate 928-24-5, Ethylene glycol dioleate 57675-44-2, Trimethylolpropane trioleate 67989-86-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- IT 57675-44-2, Trimethylolpropane trioleate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of phosphate or phosphite and oxidizer (and alkanolamine and alc.))
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-

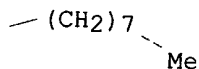
octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:660763 HCAPLUS
 DN 125:280509
 TI Water-soluble rolling oils for stainless steel sheets and rolling process
 IN Yamamoto, Hideo; Matsumoto, Keiji
 PA Sumitomo Metal Ind, Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M173-00
 ICS B21B003-02; B21B027-10; B21B045-02
 ICI C10M173-00, C10M105-32, C10M137-04, C10M105-74, C10M133-08, C10M129-06;
 C10N020-02, C10N030-06, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08225794	A2	19960903	JP 1995-30914	19950220

- AB The rolling oils, having av. diam. <5 .mu.m emulsions, contain synthetic ester base oils having viscosity 7-150 cSt at 40.degree., (1) amine salts of C12-36 fatty acids or dibasic acids and/or C1-18 aliph. alkylamine salts of mono- or di-C6-18 alkyl phosphates and/or phosphites 2-10, (2) C2-18 alkanolamines 2.5-10, and (3) C4-18 alcs. 2-10 wt.%. The rolling oils may contain the amine salts of fatty acids or dibasic acids, and have 3-15 vol.% emulsion concn. and pH .gtoreq.8.5. A process for cold rolling stainless steel sheets using the rolling oils is also claimed.
- ST water sol rolling lubricating oil; fatty acid amine lubricating oil; dibasic acid amine lubricating oil; phosphate alkylamine lubricating oil; phosphite alkylamine lubricating oil
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C4-18, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amino, C2-18; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(coco, butylamine salts; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT **Lubricating oil additives**
(metalworking, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT Lubricating oils
(rolling oils, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT Fatty acids, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tallow, esters, water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(unsatd., dimers, dimethylamine salts; water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT 71-36-3, 1-Butanol, uses 102-71-6, Triethanolamine, uses 109-73-9D, Butylamine, salts with coco fatty acids 111-87-5, 1-Octanol, uses 112-30-1, Decyl alcohol 112-53-8, 1-Dodecanol 124-40-3D, Dimethylamine, salts with dimeric acids 143-28-2 93777-51-6 111363-95-2 171407-32-2 171407-37-7 182939-47-5 182939-48-6 182939-49-7 182939-50-0
RL: MOA (Modifier or additive use); USES (Uses)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT 11109-52-7, SUS 430
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)
- IT 104-76-7D, 2-Ethylhexyl alcohol, esters with tallow fatty acids 111-06-8, Butyl palmitate 111-87-5D, 1-Octanol, diesters with dimer

acids 112-61-8, Methyl stearate 124-04-9D, Hexanedioic acid, esters with trimethylolpropane and lauric acid 143-07-7D, Dodecanoic acid, esters with trimethylolpropane and adipic acid 57675-44-2, Trimethylolpropane trioleate 67989-86-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

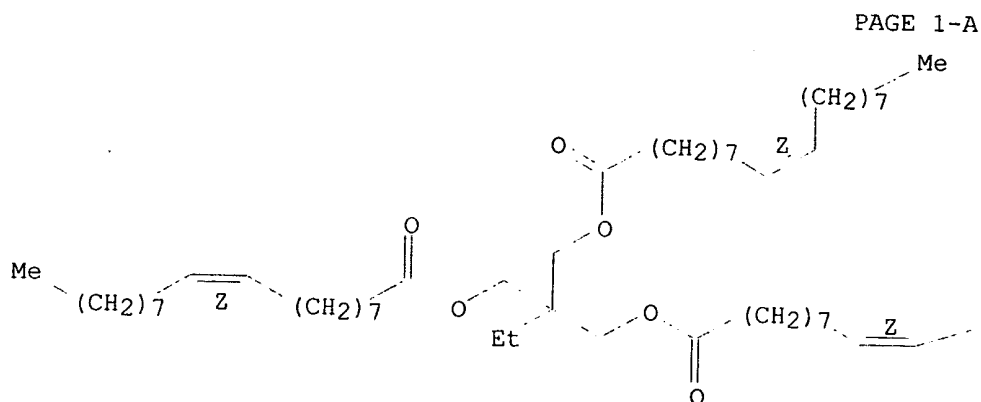
IT 57675-44-2, Trimethylolpropane trioleate

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (water-sol. ester-based rolling oil contg. amine of fatty acid or dibasic acid or phosphate or phosphite and alkanolamine and alc.)

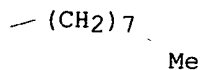
RN 57675-44-2 HCAPLUS

CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B



L53 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1996:639070 HCAPLUS

DN 126:9809

TI Friction and lubrication in drawing coated steel sheets on chromium-coated beads

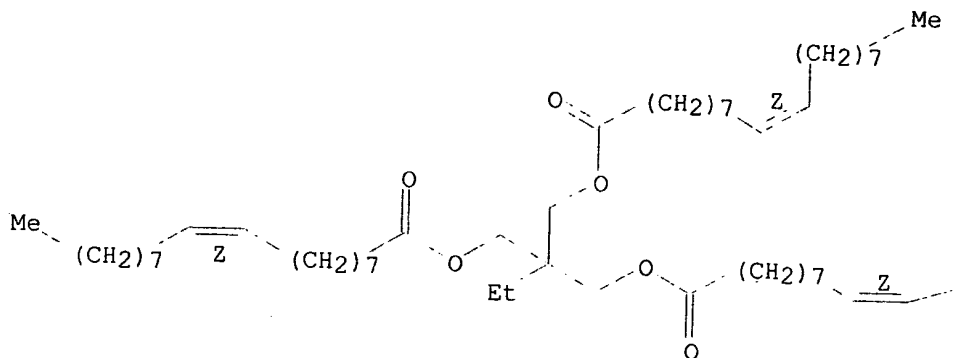
KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

- AU Schey, John A.
CS Department Mechanical Engineering, University Waterloo, Waterloo, ON, N2L 3G1, Can.
SO Lubr. Eng. (1996), 52(9), 677-681
CODEN: LUENAG; ISSN: 0024-7154
PB Society of Tribologists and Lubrication Engineers
DT Journal
LA English
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 55
AB The effects of a chromium coating were studied by drawbead simulation tests on a representative range of sheet materials, with neat base oils and ester oils contg. oleic acid and a borate. On bare cold-rolled steel sheet, friction increased relative to polished or axially finished hardened steel beads. There was a smaller increase with a galvanized sheet. In drawing electrogalvanized sheets, chromium coating reduced the sensitivity of the system to changes in the characteristics of zinc coatings and in lubricants. Friction was not necessarily reduced, but metal transfer and damage to the sheet surface were minimized.
ST lubrication metal drawing chromium coating; electrogalvanized metal drawing lubricant; galvanized sheet metal drawing lubricant; ester lubricating metal drawing oil
IT Galvanized steel
RL: MSC (Miscellaneous)
(drawing of; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT **Lubricating oils**
(drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT Galvanized steel
RL: MSC (Miscellaneous)
(electrogalvanized, drawing of; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT **Synthetic lubricating oils**
(metalworking, ester-type, drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT **Metalworking oils**
(synthetic, ester-type, drawing oils; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 7440-47-3, Chromium, miscellaneous
RL: MSC (Miscellaneous)
(coating; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 112-80-1, Oleic acid, uses 10043-35-3D, Boric acid (H3BO3), salts
RL: MOA (Modifier or additive use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)
IT 42222-50-4, Neopentyl glycol dioleate 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and **additive** effects in **lubrication** of drawing of coated steel sheets on Cr-coated metal beads)

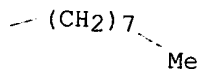
IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(synthetic base drawing oils contg.; base oil and ester oil compn. and
additive effects in lubrication of drawing of coated
steel sheets on Cr-coated metal beads)
RN 57675-44-2 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

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PAGE 1-B



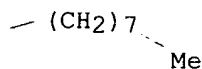
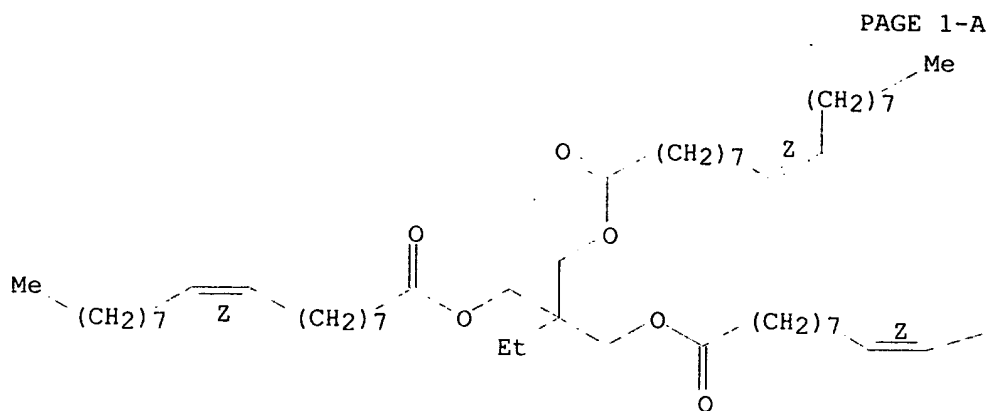
L53 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:544229 HCAPLUS
DN 125:226166
TI Direct Observation of Boundary Layers
AU Spikes, Hugh A.
CS Department of Mechanical Engineering, Imperial College of Science, London,
SW7 2BX, UK
SO Langmuir (1996), 12(19), 4567-4573
CODEN: LANGD5; ISSN: 0743-7463
DT Journal
LA English
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
AB By using a combination of spacer layer optical interferometry and spectral

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anal., it has recently become possible to measure lubricant films down to less than 2 nm thickness in high-pressure, rolling ball on flat contacts. This enables the presence and some of the properties of boundary lubricating films to be obsd. directly for the first time in realistic contact conditions. This paper describes some recent work using this approach. It is shown that highly refined, nonpolar base fluids exhibit classical hydrodynamic behavior down to less than 2 nm film thickness, whereas fluids such as esters give enhanced film thickness in this very thin film region. Work on polymer solns. and base fluid mixts. suggests that the main way that such fluids form boundary layers is by preferential adsorption on solid surfaces of polar moieties from soln. This has the effect of changing the compn. and thus effective viscosity of lubricant layers close to solid surfaces, thereby leading to a hydrodynamic response different from that predicted from the bulk rheol. properties of the blend.

- ST lubricant boundary layer property structure
- IT Lubricants
 - (boundary-layer; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT Lubricating oils
 - (direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT Lubrication
 - (boundary, direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT 9003-31-0, Polyisoprene
 - RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 - (lubricant additive; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT 57-11-4, Stearic acid, uses 26761-50-2, Isooctyl oleate
 - 57675-44-2, Trimethylolpropane trioleate
 - RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 - (lubricant compn. contg.; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT 544-76-3, Hexadecane
 - RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 - (lubricant; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- IT 57675-44-2, Trimethylolpropane trioleate
 - RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 - (lubricant compn. contg.; direct observation of boundary layers by spacer layer optical interferometry and spectral anal.)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

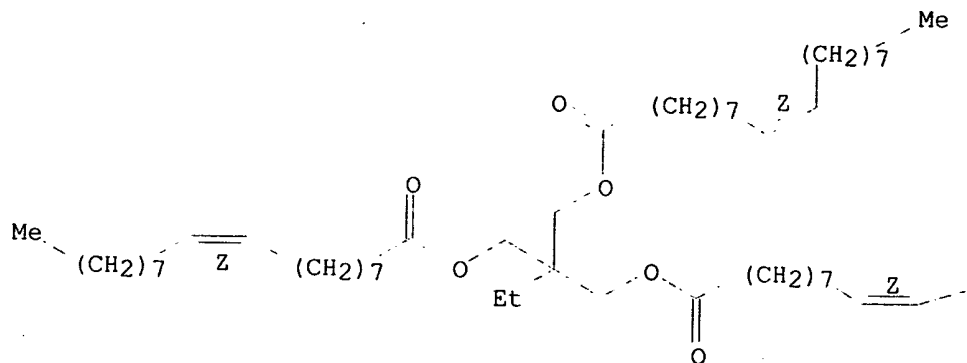


L53 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:541292 HCAPLUS
 DN 125:226164
 TI Lubricant effects in drawing coated sheets over nitrided die surfaces
 AU Schey, John A.
 CS Dep. Mechanical Eng., Univ. Waterloo, Waterloo, ON, N2L 3G1, Can.
 SO Lubr. Eng. (1996), 52(8), 630-636
 CODEN: LUENAG; ISSN: 0024-7154
 DT Journal
 LA English
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 AB The effects of plasma nitridation were studied by drawbead simulation tests with beads of axial, slightly cross-hatched, and circumferentially honed and polished finishes. With bare steel beads and a base oil of 10 cSt viscosity at 40.degree., a cross-hatched finish was slightly and the circumferentially honed finish greatly harmful, esp. on zinc-coated sheets that depended on the development of a stable zinc transfer layer for low friction and surface damage. Oleic acid (as impurity in oleate-based polyol ester lubricating oils) aggravated the situation with these sheets, whereas a borate additive improved it. Increasing base oil viscosity to 46 cSt attenuated the effects. Plasma nitridation produced a pebbly surface which promoted the rapid development of zinc

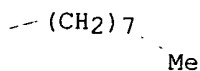
- transfer layers and thus reduced sensitivity to sheet and lubricant variations. Diamond polishing of nitrided beads often prevented the formation of transfer layers and increased friction while keeping surface damage to a min.
- ST galvanized sheet drawing lubrication nitridation; plasma nitridation die metal drawing lubrication; surface roughness nitridation die metal drawing
- IT Galvanized iron and steel
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (drawing of; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Surface structure
(pebbling; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Lubricating oils
(cold-rolling, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Lubricating oils
(drawing oils, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Lubricating oils
(metalworking, naphthenic oil-based; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Lubricating oils
(metalworking, synthetic, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Nitridation
(plasma, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT Surface structure
(roughness, plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT 112-80-1, Oleic acid, miscellaneous
RL: MSC (Miscellaneous)
(impurity; plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT 42222-50-4, Neopentyl glycol dioleate 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(plasma nitridation effects on die surface structure in metal forming in presence of conventional and synthetic lubricating oils)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

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PAGE 1-B



L53 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:328681 HCAPLUS
 DN 124:347928
 TI Lubricating oil compositions for improved wear resistance and surface roughening resistance of cast iron rolls
 IN Kawakami, Tamotsu; Yamamoto, Kazunobu; Ihara, Hajime; Kihara, Naoki
 PA Shinnippon Seitetsu Kk, Japan; Kyodo Yushi
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M173-00
 ICS B21B027-06
 ICI C10M173-00, C10M109-02, C10M105-22, C10M101-02, C10M105-32, C10M103-00; C10N010-04, C10N020-06, C10N030-10, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 FAN.CNT 1

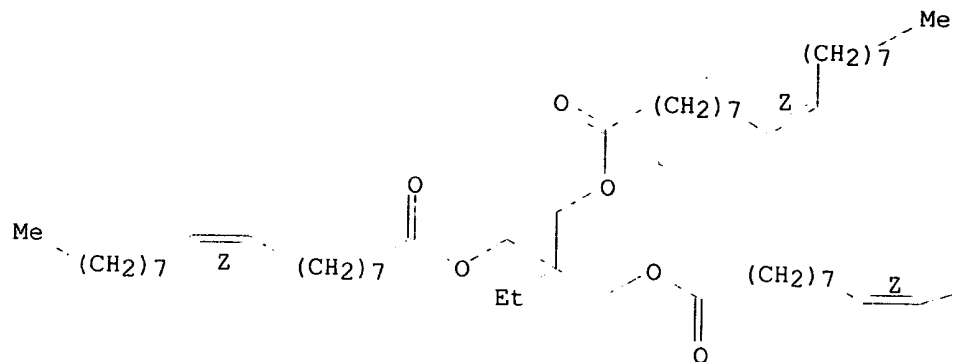
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08067895	A2	19960312	JP 1994-207186	19940831

AB The title compns. comprise a mineral oil or synthetic ester base stock

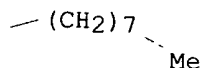
- 10-90, an overbased alk. earth metal sulfonate 10-90, anhyd. carboxylic acids 0.5-50, and spherical silica grains (av. diam. 5-20 μm) 0.1-10 wt.%. The compns. show kinematic viscosity $\leq 1000 \text{ mm}^2/\text{s}$ at 40.degree..
- ST steel rolling lubricating oil compn; calcium sulfonate lubricating oil compn
- IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alk. earth salts, lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alkenyl, anhyd.; lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT Lubricating oil additives
(antifriction-antiwear, for hot rolling of steel or cast iron strips)
- IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(base oils contg.; lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT 85-44-9D, Phthalic anhydride, alkenyl derivs. 93-97-0, Benzoic anhydride 108-30-5D, Succinic anhydride, alkenyl derivs. 638-08-4, Stearic anhydride 24909-72-6, Oleic anhydride
RL: MOA (Modifier or additive use); USES (Uses)
(lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(spherical grains; lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: MOA (Modifier or additive use); USES (Uses)
(base oils contg.; lubricating oil compns. for improved wear resistance and surface roughening resistance of cast iron rolls)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:326431 HCAPLUS
 DN 124:347917
 TI Additive for lubricating oil
 IN Kinker, Bernard George; Stevens, Bridget Marie; Washel, Jerry William
 PA Rohm and Haas Company, USA
 SO Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C10M145-14
 ICS C08F220-18; C10M169-04
 ICI C10M145-14, C10M145-14; C10M169-04, C10M101-04, C10M105-38, C10M145-14;
 C10N030-02
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 710711	A1	19960508	EP 1995-306582	19950919
	EP 710711	B1	20011121		
	R: BE, DE, FR, GB, IT, NL, SE				
	FI 9504583	A	19960413	FI 1995-4583	19950927
	AU 9532976	A1	19960426	AU 1995-32976	19951002

AU 705809 B2 19990603
 NO 9503971 A 19960415 NO 1995-3971 19951006
 CA 2160304 AA 19960413 CA 1995-2160304 19951011
 BR 9504371 A 19970408 BR 1995-4371 19951011
 JP 08209179 A2 19960813 JP 1995-289188 19951012
 US 5696066 A 19971209 US 1996-672313 19960628
 PRAI US 1994-321674 A 19941012

AB The present invention provides a polymer comprising repeating units derived from a C8-15 alkyl (meth)acrylate monomer, and repeating units derived from a C16-24 alkyl (meth)acrylate monomer. The present invention also provides a biodegradable additive and a biodegradable lubricating oil compn. comprising the polymer and vegetable oil or polyol ester. The lubricating oil compns. exhibit improved low temp. fluidity and low temp. storage stability.

ST lubricating oil additive biodegradable
 IT Lubricating oil additives
 (C8-15 alkyl (meth)acrylate-C16-24 alkyl (meth)acrylate copolymers as)

IT Canola oil
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive for lubricating oil)

IT 42222-50-4, Neopentyl glycol dioleate 56631-89-1, Lauryl methacrylate-stearyl methacrylate copolymer
 57675-44-2, Trimethylolpropane trioleate 68541-50-4, Trimethylolpropane triisostearate 177081-82-2
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive for lubricating oil)

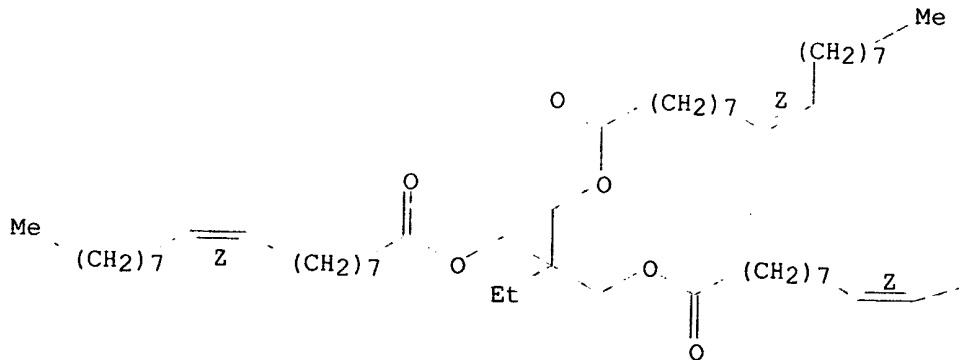
IT 142-90-5, Lauryl methacrylate 2495-27-4, Cetyl methacrylate 2549-53-3, Myristyl methacrylate 32360-05-7, Stearyl methacrylate 45294-18-6, Eicosyl methacrylate
 RL: RCT (Reactant)
 (additive for lubricating oil)

IT 57675-44-2, Trimethylolpropane trioleate
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive for lubricating oil)

RN 57675-44-2 HCAPLUS
 CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

(CH₂)₇
Me

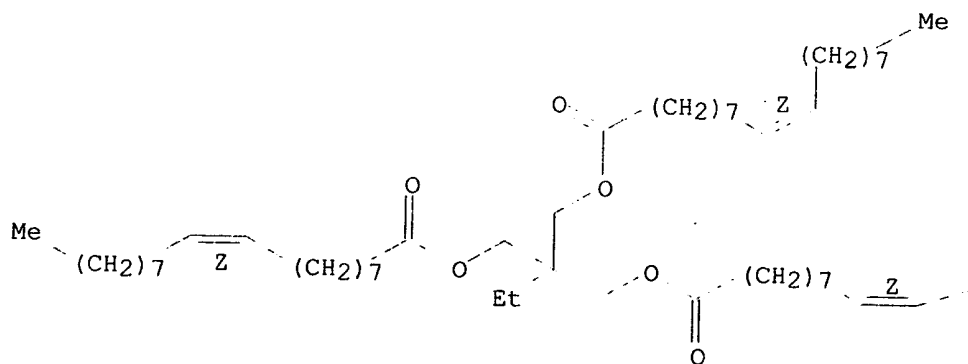
L53 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:184291 HCAPLUS
DN 124:206951
TI Thread cutting oils having excellent biodegradability for drinking water pipes
IN Yamamoto, Ryuichi; Inoe, Hiroshi; Maruyama, Masaaki
PA Nippon Grease Kk, Japan; Rex Ind Co
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C10M169-04
ICI C10M169-04, C10M105-32, C10M101-04, C10M129-26, C10M135-10, C10M129-16; C10N030-16, C10N040-22
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 61
FAN.CNT 1

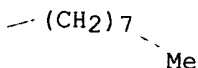
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----		-----	-----	-----
PI	JP 07316580	A2	19951205	JP 1994-108750	19940523
AB	The cutting oils contain synthetic ester oils and/or natural fats and oils as base oils and surfactants having excellent biodegradability. The synthetic ester oils may not contain arom. rings and/or alkyl group having many branches. The surfactants may be nonionic surfactants or anionic surfactants.				
ST	thread cutting oil water pipe; ester oil cutting biodegradability surfactant; fat oil cutting screw thread				
IT	Esters, uses RL: TEM (Technical or engineered material use); USES (Uses) (oils; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)				
IT	Sulfonic acids, uses RL: MOA (Modifier or additive use); USES (Uses) (sodium salts; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)				
IT	Biodegradable materials Lubricating oil additives Lubricating oils Pipes and Tubes Screws Surfactants Waters, potable				

- (thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT Fats and Glyceridic oils
Lard
Rape oil
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C8-10, esters with trimethylolpropane; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(tallow, dioctyl esters; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT 25322-68-3D, alkyl ethers
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT 112-62-9, Methyl oleate 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: TEM (Technical or engineered material use); USES (Uses)
(thread cutting oils contg. esters oils and/or natural fats and oils and surfactants for biodegradability)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



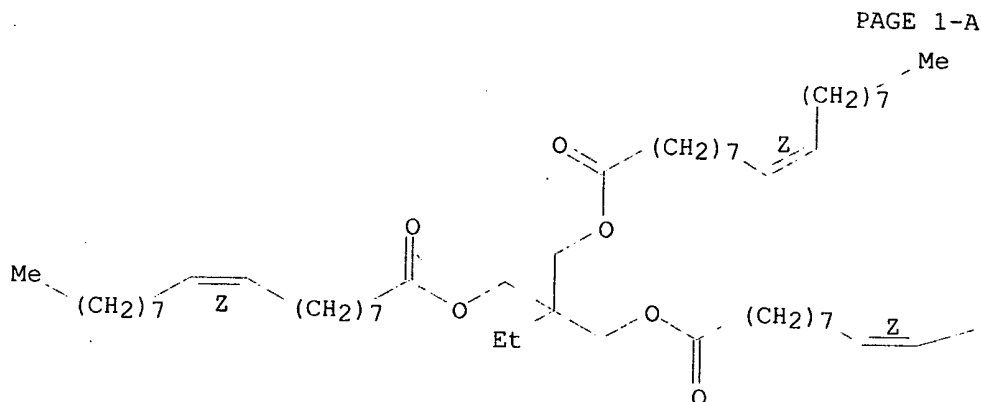


- L53 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:143469 HCAPLUS
DN 124:180620
TI **Lubricating oils** for internal combustion engines
AU Anon.
CS UK
SO Res. Discl. (1995), 376, P563-P564, 37650
CODEN: RSDSBB; ISSN: 0374-4353
PB Kenneth Mason Publications Ltd.
DT Journal
LA English
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
AB Fully formulated **lubricating oils** for heavy-duty diesel engines contain, in addn. to a base oil: (1) a Zn dialkyl dithiophosphate (to give a final P concn. of 0.05-0.12 wt.%), (2) a polyisobutenyl or poly(ethylene-propylene)-substituted succinimide dispersant (at 3-6 wt.% concn.), prepd. from the corresponding polyalkenylsuccinic anhydride (with alkenyl group of 700-2500 mol. wt.) and polyethylenepolyamines, (3) an overbased detergent chosen from phenates, sulfonates, and **salicylates**, (4) a viscosity index improver, and (5) a low-mol.-wt. surfactant at a 0.5-5:1 m concn. ratio of surfactant to the overbased detergent. Components (4) and (5) enhance the soot dispersancy properties of the **lubricating oil** to satisfy SAE J-300 specifications. The low-mol.-wt. surfactants are chosen from: (1) ethoxylated **sorbitol** esters of fatty acids, (2) polyethylenepolyamine derivs. of short-chain (C15-40) alkenyl-substituted maleic anhydride to yield a compd. with a single succinimide linkage, (3) oil-sol. imidazolines substituted with a hydroxyethyl, aminoethyl, amidoethyl, or C15-20-alkenyl or alkyl groups, and (4) N-C8-24-alkylpyrrolidones.
ST heavy duty diesel engine **lubricating oil**; surfactant overbased detergent **lubricating oil**; soot dispersancy diesel **lubricating oil**
IT Soot
(dispersion of; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
IT **Lubricating oil additives**
(detergents-dispersants, overbased; low-mol.-wt. surfactant-overbased detergent-dispersant **additive** combinations for heavy-duty diesel engines)
IT **Lubricating oil additives**
(dispersants-surfactants, low-mol.-wt. surfactant-overbased detergent-dispersant **additive** combinations for heavy-duty

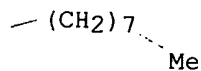
- diesel engines)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(esters, with ethoxylated sorbitol; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
- IT Polyamines
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyethylene-, reaction products, with C15-40-alkenyl-substituted maleic anhydride; low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
- IT 108-31-6DP, Maleic anhydride, alkenyl derivs., reaction products with polyethylenepolyamines 111-40-ODP, Diethylenetriamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 112-24-3DP, Triethylenetetramine, reaction products with C15-40-alkenyl-substituted maleic anhydride 112-57-2DP, Tetraethylenepentamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 504-75-6DP, Imidazoline, hydroxyethyl, aminoethyl, amidoethyl, or C15-20-alkenyl or -alkyl group-substituted 616-45-5DP, Pyrrolidone, N-C8-24-alkyl derivs. 4067-16-7DP, Pentaethylenehexamine, reaction products with C15-40-alkenyl-substituted maleic anhydride 9005-65-6DP, esters with fatty acids
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(low-mol.-wt. surfactant-overbased detergent-dispersant additive combinations for heavy-duty diesel engines)
- L53 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:80166 HCAPLUS
DN 124:179380
TI Lubrication: The use of lipochemistry
AU Demoulin, Andre
CS FINA chemicals, Felny, 7181, Belg.
SO Ol., Corps Gras, Lipides (1995), 2(4), 274-6
CODEN: OCLOEX; ISSN: 1258-8210
DT Journal
LA French
CC 45-3 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 51
- AB Today about 90% of the lubricants are formulated on a mineral base. But for environmental reasons or increasing of demand for high performance products, some synthetic bases have been developed, mainly hydrocracked oils, poly(.alpha.-olefins), and polyol esters. These esters are produced from fatty acids and tri- or tetraols. The esters have environmental compatibility and other characteristics superior to those of other lubricants.
- ST lubricant polyol fatty eater
- IT Lubricating oils
(from polyol fatty acid esters)
- IT Fatty acids, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(esters, lubricants from polyol fatty acid esters)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricants from polyol fatty acid esters)

- IT 124-04-9, Adipic acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(viscosity additive; lubricants from polyol fatty acid esters)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricants from polyol fatty acid esters)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B



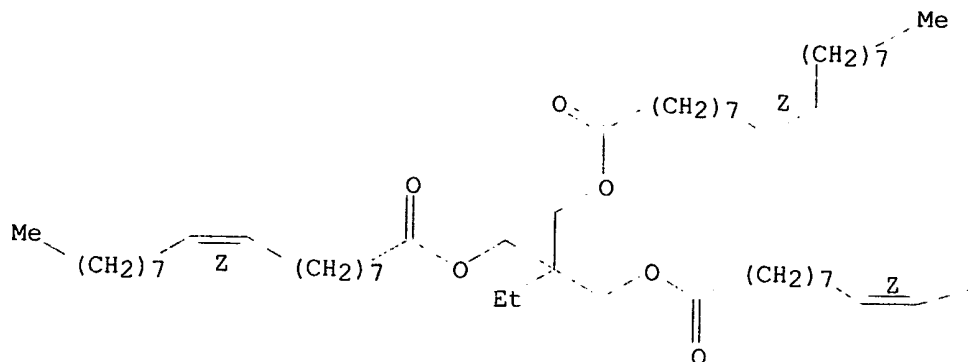
- L53 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:910596 HCAPLUS
DN 124:61254
TI Ester-type wear-resistant lubricating oil compositions containing phosphate esters
IN Shimizu, Isao
PA Yacho Risaachi Jugengaisha, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
 IC ICM C10M169-04
 ICI C10M169-04, C10M105-32, C10M137-04, C10M137-10; C10N020-02, C10N030-06,
 C10N040-30
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

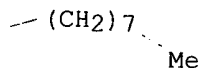
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07207291	A2	19950808	JP 1994-30749	19940118
OS	MARPAT 124:61254				
AB	Base oils contg. ester-type synthetic oils are mixed with triesters of phosphoric acid or thiophosphoric acid contg. 1-3 unsatd. bond-contg. substituents. The substituents may be alkenyl, alkenyl arom., diol unsatd. carboxylic acid mono esters, or diol unsatd. alc. mono ethers. The products, esp. suitable for refrigerator oils and biodegradable working fluids, have good wear resistance under high load.				
ST	phosphate ester lubricating oil additive; thiophosphate ester lubricant wear resistance; refrigerator fluid additive phosphate ester				
IT	Hydraulic fluids Lubricating oil additives Refrigerating apparatus (ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
IT	Carboxylic acids, uses Fatty acids, uses RL: TEM (Technical or engineered material use); USES (Uses) (esters, base oils; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
IT	122-62-3, Dioctyl sebacate 57675-44-2, Trimethylolpropane trioleate RL: TEM (Technical or engineered material use); USES (Uses) (base oil; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
IT	77-99-6D, Trimethylolpropane, fatty esters 115-77-5D, Pentaerythritol, fatty esters RL: TEM (Technical or engineered material use); USES (Uses) (base oils; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
IT	3305-68-8, Trioyleyl phosphate 16069-23-1 34419-55-1 62834-69-9 103188-25-6, Trioyleyl thiophosphate 172175-49-4 RL: MOA (Modifier or additive use); USES (Uses) (ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
IT	57675-44-2, Trimethylolpropane trioleate RL: TEM (Technical or engineered material use); USES (Uses) (base oil; ester-type lubricating oils contg. triesters of phosphates or thiophosphates for wear resistance)				
RN	57675-44-2 HCAPLUS				
CN	9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)				

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

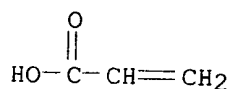


L53 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1995:705660 HCAPLUS
 DN 123:148730
 TI Functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives
 IN Stoffa, John V.
 PA Lubrizol Corp., USA
 SO U.S., 33 pp. Cont.-in-part of U.S. 5,298,177.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C10M141-00
 NCL 252018000
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 3

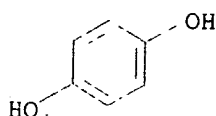
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5427700	A	19950627	US 1994-216224	19940322
	US 5298177	A	19940329	US 1993-58614	19930505
PRAI	US 1991-743536	B2	19910809		
	US 1993-58614	A2	19930505		
AB	A functional fluid is disclosed which comprises (A) at least one triglyceride; (B) at least one detergent-inhibitor additive; and				

- (C) at least one viscosity modifying **additive** and further comprising (D) at least one synthetic oil. The functional fluids are suitable for use as tractor fluids, automatic transmission fluids, manual transmission fluids, hydraulic fluids, power steering fluids, and fluids related to power train components.
- ST functional fluid triglyceride
- IT Hydraulic fluids
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT Glycerides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT Lubricants
(functional fluids; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT Fluids
(power steering fluids; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT Hydraulic fluids
Lubricating oils
(transmission, automatic and manual; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 7446-70-0, Aluminum chloride, uses
RL: CAT (Catalyst use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 79-10-7D, Acrylic acid, esters 79-41-4D, Methacrylic acid, esters
RL: MOA (Modifier or additive use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 108-88-3, Toluene, reactions 115-11-7, Isobutene, reactions 124-41-4, Sodium methoxide 7704-34-9, Sulfur, reactions 10025-67-9, Sulfur monochloride
RL: RCT (Reactant)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 78-79-5, Isoprene, uses 106-99-0, 1,3-Butadiene, uses 112-30-1, Decyl alcohol 126-99-8, Chloroprene 504-60-9, Piperylene 2555-08-0 6493-77-2, 1,3-Butadiene-methyl acrylate adduct 6493-78-3 6493-79-4 37981-14-9 37981-16-1 37981-17-2 37981-18-3 37981-19-4 38094-70-1, Isoprene-acrylonitrile adduct 38097-78-8 59321-72-1, Isoprene-methyl methacrylate adduct
RL: TEM (Technical or engineered material use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 1072-71-5D, 2,5-Dimercapto-1,3,4-thiadiazole, derivs. 29385-43-1, Tolyltriazole
RL: MOA (Modifier or additive use); USES (Uses)
(metal passivator; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 123-31-9, Hydroquinone, miscellaneous
RL: MSC (Miscellaneous)
(polymn. inhibitor; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 101-02-0, Triphenyl phosphite 621-77-2, Triamyl amine
RL: CAT (Catalyst use); USES (Uses)
(sulfurization catalyst; functional fluid with triglycerides,

- detergent-inhibitor additives and viscosity modifying additives)
- IT 74-85-1D, Ethylene, polymers 97-65-4D, Itaconic acid, polymers 100-42-5D, Styrene, polymers 108-31-6D, Maleic anhydride, polymers 110-16-7D, Maleic acid, polymers 115-07-1D, Propylene, polymers 115-11-7D, Isobutene, polymers 2170-03-8D, Itaconic anhydride, polymers
- RL: MOA (Modifier or additive use); USES (Uses)
(viscosity modifier; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- IT 79-10-7D, Acrylic acid, esters
- RL: MOA (Modifier or additive use); USES (Uses)
(functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- RN 79-10-7 HCAPLUS
- CN 2-Propenoic acid (9CI) (CA INDEX NAME)



- IT 123-31-9, Hydroquinone, miscellaneous
- RL: MSC (Miscellaneous)
(polymn. inhibitor; functional fluid with triglycerides, detergent-inhibitor additives and viscosity modifying additives)
- RN 123-31-9 HCAPLUS
- CN 1,4-Benzenediol (9CI) (CA INDEX NAME)



- L53 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2002 ACS
- AN 1995:542708 HCAPLUS
- DN 123:13292
- TI Development of an additive for cutting fluids and hydraulic oils
- AU Cha, Sang-Rok; Kim, Sung-Joong; Kim, Chang-Seang; Jang, Young-Nung; Cho, Hyun-Bum
- CS Pusan Regional Ind. Technol. Inst., S. Korea
- SO Yonju Pogo - Kungnip Kongop Kisulwon (1993), 43, 281-300
- CODEN: YPKKED
- DT Journal
- LA Korean
- CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
- AB This paper presents a study on cutting fluids and hydraulic oils. With the additive studied, similar performance to that of an imported oil was obtained.
- ST cutting fluid additive; hydraulic oil additive
- IT Hydraulic fluids
(development of)
- IT Lubricating oil additives
(for cutting fluids and hydraulic oils)
- IT Lubricating oils
(cutting oils, development of)
- IT 57675-44-2, Trimethylol propane trioleate
- RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES

(Uses)

(additives for cutting fluids and hydraulic oils)

IT 57675-44-2, Trimethylol propane trioleate

RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)

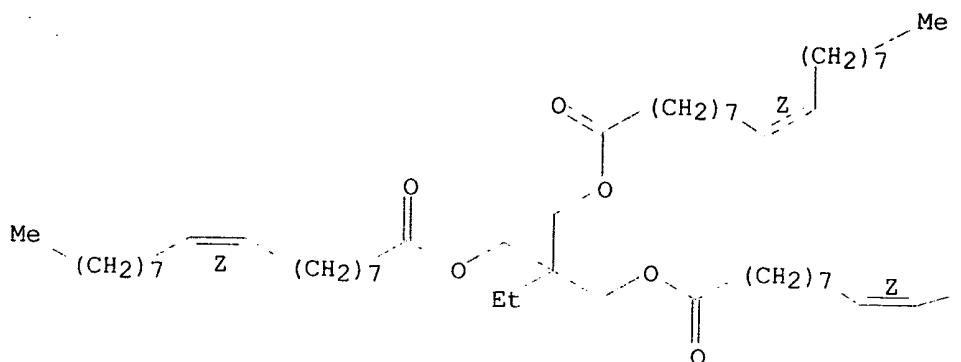
(additives for cutting fluids and hydraulic oils)

RN 57675-44-2 HCAPLUS

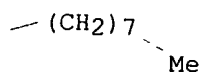
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:331566 HCAPLUS
DN 122:218327
TI Biodegradable lubricant
IN Morrison, David S.
PA Pennzoil Products Co., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C10L001-02
ICS C10M105-32

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

NCL 044388000

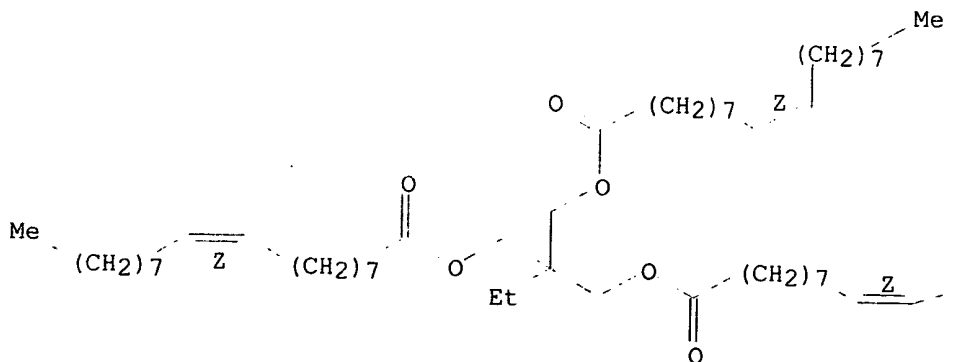
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5378249	A	19950103	US 1993-82696	19930628
OS	MARPAT 122:218327				
AB	A biodegradable two-cycle engine oil compn. comprises (a) .apprx.20-85 wt.% of a heavy ester or a mixt. of heavy ester oils characterized by a kinematic viscosity of .gtorsim.7.0 cSt at 100.degree., (b) 10-85 wt.% of a light ester oil or a mixt. of light ester oils characterized by a kinematic viscosity of .ltorsim.6.0 cSt at 100, and optionally an additive, wherein the compn. has a biodegradability of .gtorsim.66% as measured by the CEC L-33-T-82 method.				
ST	biodegradable two cycle engine lubricant				
IT	Lubricating oils (crankcase, biodegradable two-cycle engine oils)				
IT	124586-60-3, Oloa 340r	162122-58-9, OLOA 340RB			
	RL: MOA (Modifier or additive use); USES (Uses) (additive packages; biodegradable two-cycle engine lubricants contg.)				
IT	53061-21-5, Plexol 305	162121-84-8, Acryloid 154-70			
	RL: MOA (Modifier or additive use); USES (Uses) (additive; biodegradable two-cycle engine lubricants contg.)				
IT	122-32-7, Glycerol trioleate	25189-70-2, Emery 3002	31567-37-0		
	57675-44-2, Trimethylolpropane trioleate	68541-50-4, Priolube			
	3999 161716-09-2				
	RL: MOA (Modifier or additive use); USES (Uses) (biodegradable two-cycle engine lubricants contg.)				
IT	57675-44-2, Trimethylolpropane trioleate				
	RL: MOA (Modifier or additive use); USES (Uses) (biodegradable two-cycle engine lubricants contg.)				
RN	57675-44-2 HCAPLUS				
CN	9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)				

Double bond geometry as shown.

PAGE 1-A



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Me

L53 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:240005 HCAPLUS
DN 122:34976
TI Graphite-free lubricating oil
IN Sakai, Kenji; Goto, Koichi; Yokomizo, Hitoshi; Mitamura, Kazuhiro; Kawai, Toshinori; Hirofuji, Masatoshi
PA Kyodo Yushi Co., Ltd., Japan; Nissan Motor Co., Ltd.
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C10M145-40
ICS C10M161-00; C10M169-04
ICA C10N020-06; C10N040-24; C10N060-00
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 613939	A2	19940907	EP 1994-400428	19940301
	EP 613939	A3	19940914		
	EP 613939	B1	19990915		
	R: DE, ES, FR, GB				
	JP 06256784	A2	19940913	JP 1993-41271	19930302
	JP 2586871	B2	19970305		
	US 5460737	A	19951024	US 1994-201992	19940225
	ES 2138055	T3	20000101	ES 1994-400428	19940301
PRAI	JP 1993-41271		19930302		

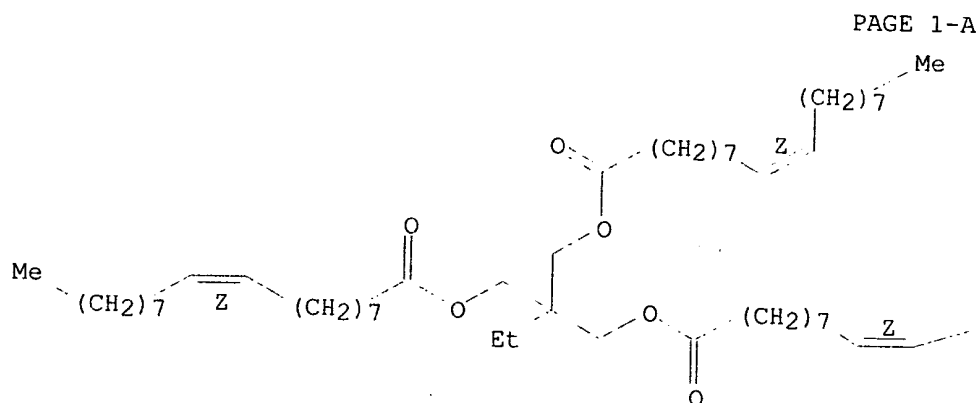
AB A graphite-free lubricating oil which comprises a base oil having dispersed therein 10 to 40% by wt. of a carbohydrate and/or a deriv. thereof whose particle size ranges from 10 to 150 .mu.m, 2 to 20% by wt. of a film-boosting agent and 0.1 to 20% by wt. of a dispersant. Moreover, the lubricating oil is free of black-colored substances such as graphite. Therefore, the oil permits the improvement of working surroundings and exhibits excellent properties such as formability through forging almost comparable to or even greater than that of the com. available graphite-in-oil type lubricating oils. The lubricating oil can be used instead of the graphite-contg. lubricating oils for warm forging, hot forging, rolling, tube-manufg., drawing and extrusion in place of the graphite-contg. lubricating oils and ensures the improvement in the working surroundings and excellent lubricity.

ST graphite free lubricating oil
IT Castor oil
Rape oil

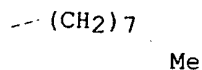
- RL: MOA (Modifier or additive use); USES (Uses)
(dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Lubricating oil additives
(film-boosting agents; graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Lubricating oils
(graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Carbohydrates and Sugars, uses
RL: MOA (Modifier or additive use); USES (Uses)
(graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(calcium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Polysulfides
RL: MOA (Modifier or additive use); USES (Uses)
(di-tert-dodecyl, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Lubricating oil additives
(dispersants, graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Polyphosphoric acids
RL: MOA (Modifier or additive use); USES (Uses)
(potassium salts, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(sodium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Lard
RL: MOA (Modifier or additive use); USES (Uses)
(sulfurized, film-boosting agent for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(tallow, calcium salts, dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 25151-96-6 57675-44-2 159777-62-5, Nissan Unister C 3373H
RL: MOA (Modifier or additive use); USES (Uses)
(base oil for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 53241-15-9, Starch phosphate, sodium salt
RL: MOA (Modifier or additive use); USES (Uses)
(carbonate for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 57-50-1, Sucrose, uses 637-12-7, Aluminum stearate 5793-84-0, Calcium phenate 7173-60-6 9004-53-9, Dextrin 9005-25-8, Starch, uses 9085-22-7, Cellulose stearate 12441-09-7D, Sorbitan, esters with C12-22 monocarboxylic acids 50975-31-0, Stearylpropylenediamine 53466-28-7, Stearylpropylenediamine dioleate 83271-10-7 159587-23-2
RL: MOA (Modifier or additive use); USES (Uses)
(dispersant for graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 108-25-8, Isopropyl xanthate 136-23-2, Zinc dibutyldithiocarbamate 149-30-4, 2-Mercaptobenzothiazole 471-34-1, Calcium carbonate, uses 594-07-0D, Dithiocarbamic acid, alkyl derivs. 1314-13-2, Zinc oxide, uses 3486-35-9, Zinc carbonate 7704-34-9, Sulfur, uses 7727-43-7, Barium sulfate 7778-18-9, Calcium sulfate 10086-45-0, Calcium pyrophosphate 10102-76-8, Calcium hexametaphosphate 10109-40-7

- 11098-99-0, Molybdenum oxide 12738-87-3, Tin sulfide 15834-33-0D,
 Dithiophosphoric acid, alkyl derivs. 37367-98-9, Calcium molybdate
 61583-60-6, Zinc molybdate 146509-31-1 159587-22-1
 RL: MOA (Modifier or additive use); USES (Uses)
 (film-boosting agent for graphite-free lubricating oil for forging,
 drawing, and extrusion)
- IT 9004-34-6, Cellulose, uses 9005-32-7D, Alginic acid, alkali metal salts
 RL: MOA (Modifier or additive use); USES (Uses)
 (graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 7782-42-5, Graphite, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (graphite-free lubricating oil for forging, drawing, and extrusion)
- IT 57675-44-2
 RL: MOA (Modifier or additive use); USES (Uses)
 (base oil for graphite-free lubricating oil for forging, drawing, and
 extrusion)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
 octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B

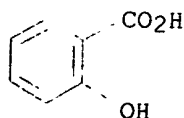


DN 120:139054
 TI Environment-compatible and biologically rapidly decomposable
 lubricants for circular lubrication of engines and other
 units in cars and machine tools
 PA Fuchs Petrolub AG Oel und Chemie, Germany
 SO Ger. Offen., 4 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C10M169-04
 ICI C10M169-04, C10M105-32, C10M129-10, C10M133-04, C10M133-12, C10M133-18,
 C10M137-02, C10M135-30, C10M135-26, C10M129-16, C10M133-40, C10M129-72,
 C10M129-76, C10M133-44, C10M133-22, C10M135-36, C10M135-20, C10M133-48,
 C10M129-74
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

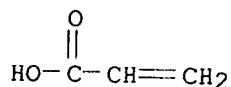
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4217961	A1	19931202	DE 1992-4217961	19920530
	EP 572866	A1	19931208	EP 1993-108141	19930519
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
PRAI	DE 1992-4217961		19920530		

AB The title lubricants for internal-combustion engines of spark-
 or auto-ignition with circular lubrication, units (e.g., gears,
 hydraulics, clutches, etc.) in cars and machine tools, consist of a biol.
 decomposable base oil and additives which are
 non-toxic and non-polluting.
 ST engine oil biol decomposable antipolluting
 IT Tocopherols
 RL: USES (Uses)
 (antioxidant, lubricants contg., environment-compatible and
 biol. decomposable)
 IT Hydraulic fluids
 (compns. of, environment-compatible and biol. decomposable)
 IT Acrylic polymers, uses
 Polyethers, uses
 RL: USES (Uses)
 (viscosity improver, lubricants contg., environment-
 compatible and biol. decomposable)
 IT Lubricating oils
 (crankcase, compns. of, environment-compatible and biol. decomposable)
 IT Carboxylic acids, esters
 RL: USES (Uses)
 (di-, esters, lubricants contg., environment-compatible and
 biol. decomposable)
 IT Siloxanes and Silicones, uses
 RL: USES (Uses)
 (di-Me, antifoaming agent, lubricants contg.,
 environment-compatible and biol. decomposable)
 IT Lubricating oils
 (gear oils, compns. of, environment-compatible and biol.
 decomposable)
 IT Alcohols, esters
 RL: USES (Uses)
 (polyhydric, esters, lubricants contg., environment-
 compatible and biol. decomposable)
 IT Fatty acids, polymers
 RL: USES (Uses)
 (unsatd., dimers, esters, lubricants contg.,
 environment-compatible and biol. decomposable)

- IT 25322-68-3D, Polyethylene glycol, ethers
 RL: USES (Uses)
 (antifoaming agent, lubricants contg., environment-compatible and biol. decomposable)
- IT 88-58-4 90-30-2, N-Phenyl-1-naphthylamine 111-17-1, Thiodipropionic acid 119-47-1 122-39-4, Diphenylamine, uses 122-39-4D, Diphenylamine, octylated 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses 128-39-2, 2,6-Di-tert-butylphenol 147-47-7, 2,2,4-Trimethyl-1,2-dihydroquinone 489-01-0, 2,6-Di-tert-butyl-4-methoxyphenol 824-46-4, Methoxyhydroquinone 1709-70-2, 1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-2,4,6-trimethylbenzene 1879-09-0, 2-tert-Butyl-4,6-dimethylphenol 2082-79-3 4130-42-1, 2,6-Di-tert-butyl-4-ethylphenol 16857-10-6, 2,2'-Thiobis(4-octylphenol) 25013-16-5, Butylhydroxyanisol 58114-34-4
 RL: USES (Uses)
 (antioxidant, lubricants contg., environment-compatible and biol. decomposable)
- IT 108-30-5D, Succinic anhydride, alkenyl derivs. 110-25-8, N-Oleoyl sarcosine 504-75-6D, Imidazoline, derivs. 1338-43-8, Sorbitan monooleate 30969-75-6, Oxazoline
 RL: USES (Uses)
 (corrosion inhibitor, lubricants contg., environment-compatible and biol. decomposable)
- IT 69-72-7D, derivs. 113-00-8D, Guanidine, derivs. 123-56-8D, Succinimide, polybutenyl derivs. 7664-38-2D, Phosphoric acid, polybutenyl derivs.
 RL: USES (Uses)
 (detergent-dispersant, lubricants contg., environment-compatible and biol. decomposable)
- IT 111-20-6D, Decanedioic acid, esters 123-99-9D, Azelaic acid, esters 124-04-9D, Hexanedioic acid, esters
 RL: USES (Uses)
 (lubricants contg., environment-compatible and biol. decomposable)
- IT 78-90-0D, Propylenediamine, salicylated 95-14-7, Benzotriazole 95-14-7D, Benzotriazole, derivs. 149-30-4, 2-Mercaptobenzothiazole 24931-45-1 29385-43-1, Tolyltriazole 29385-43-1D, Tolyltriazole, derivs.
 RL: USES (Uses)
 (metal passivator, lubricants contg., environment-compatible and biol. decomposable)
- IT 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, esters, polymers 88-12-0D, polymers with methacrylates
 RL: USES (Uses)
 (viscosity improver, lubricants contg., environment-compatible and biol. decomposable)
- IT 69-72-7D, derivs.
 RL: USES (Uses)
 (detergent-dispersant, lubricants contg., environment-compatible and biol. decomposable)
- RN 69-72-7 HCAPLUS
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



IT 79-10-7D, Acrylic acid, esters, polymers
 RL: USES (Uses)
 (viscosity improver, lubricants contg., environment-compatible and biol. decomposable)
 RN 79-10-7 HCAPLUS
 CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1993:584551 HCAPLUS
 DN 119:184551
 TI Low calcium content lubricating compositions
 IN Salomon, Mary F.; Davis, Kirk E.; Karn, Jack L.; Cahoon, John M.
 PA Lubrizol Corp., USA
 SO PCT Int. Appl., 97 pp.
 CODEN: PIXXD2

DT Patent

LA English

IC ICM C10M163-00

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

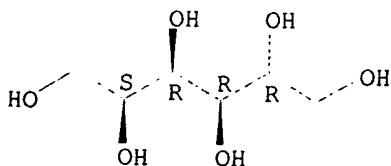
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9218589	A2	19921029	WO 1992-US1578	19920227
	W: AU, BR, CA, FI, JP, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	CA 2085614	AA	19921020	CA 1992-2085614	19920227
	AU 9222338	A1	19921117	AU 1992-22338	19920227
	AU 657988	B2	19950330		
	EP 535221	A1	19930407	EP 1992-914141	19920227
	EP 535221	B1	19960131		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
	BR 9205244	A	19930727	BR 1992-5244	19920227
	JP 05508188	T2	19931118	JP 1992-511703	19920227
	AT 133702	E	19960215	AT 1992-914141	19920227
	ES 2085628	T3	19960601	ES 1992-914141	19920227
	NO 9204807	A	19921211	NO 1992-4807	19921211
	US 5486300	A	19960123	US 1994-278344	19940721
	US 5614480	A	19970325	US 1994-259374	19940725
PRAI	US 1991-688195		19910419		
	US 1991-690179		19910419		
	WO 1992-US1578		19920227		
	US 1992-884961		19920515		
AB	The compns. comprise a major amt. of a lubricating oil, .gtoreq.1 overbased alkali metal salt of an org. acid, e.g., a carboxylate, sulfonate, phosphonate, or phenolate, providing .gtorsim. 0.005 equiv. alkali metal per 100 g compn., .gtorsim. 1.13 wt % dispersant(s), .gtoreq.1 metal dihydrocarbyl dithiophosphate, .gtoreq.1 antioxidant, provided that the compn. is free of Ca overbased sulfonate, or other Ca salts., and contains .ltorsim. 0.08 wt.% Ca, and the dithiophosphate and antioxidant are not the same. The compns. are used to lubricate spark-ignited or compression engines.				
ST	alkali metal basic carboxylate lubricant; dialkyl dithiophosphate lubricating compn; spark ignition engine lubricating compn; compression				

- engine lubricating compn; overbased sulfonate lubricating compn;
phosphonate overbased compn; phenolate overbased lubricating compn;
antioxidant dispersant lubricating compn
- IT Lubricating oils
(comps. of, calcium-free, for spark ignition and compression engines)
- IT Mannich bases
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)
- IT Amines, uses
Esters, uses
RL: USES (Uses)
(dispersants, in calcium-free lubricating compns.)
- IT Antioxidants
Dispersing agents
(lubricating compns. contg., calcium-free)
- IT Amides, uses
RL: USES (Uses)
(of polyalkene carboxylates, dispersants, in calcium-free lubricating compns.)
- IT Carboxylic acids, compounds
Phenols, compounds
RL: USES (Uses)
(alkali metal salts, overbased, lubricating compns. contg., calcium-free)
- IT Sulfonic acids, compounds
RL: USES (Uses)
(alkali metal salts, overbased, lubricating compns. contg., calcium-free)
- IT Polyamines
RL: USES (Uses)
(polyalkylene-, reaction products, with polyalkene carboxylates, dispersants, in calcium-free lubricating compns.)
- IT Polyamines
RL: USES (Uses)
(polyethylene-, reaction products, with **acrylating** agents, dispersants, in calcium-free lubricating compns.)
- IT Carboxylic acids, compounds
RL: USES (Uses)
(potassium salts, overbased, lubricating compns. contg., calcium-free)
- IT Sulfonic acids, compounds
RL: USES (Uses)
(potassium salts, overbased, lubricating compns. contg., calcium-free)
- IT Carboxylic acids, compounds
RL: USES (Uses)
(sodium salts, overbased, lubricating compns. contg., calcium-free)
- IT Sulfonic acids, compounds
RL: USES (Uses)
(sodium salts, overbased, lubricating compns. contg., calcium-free)
- IT 112-41-4D, 1-Dodecene, reaction products with C16-18-alkenes
26044-99-5D, sulfurized 137692-34-3 148301-39-7
RL: USES (Uses)
(antioxidant, in calcium-free lubricating compns.)
- IT 108-95-2, Phenol, uses 108-95-2D, Phenol, trialkyl 15834-33-0D,
Phosphorodithioic acid, dihydrocarbyl derivs.
RL: USES (Uses)
(antioxidants, in calcium-free lubricating compns.)
- IT 110-15-6D, Succinic acid, polybutenyl derivs. reaction products with amines
RL: USES (Uses)
(dispersant, in calcium-free lubricating compns.)

- IT 50-70-4, D-Glucitol, uses 56-81-5, 1,2,3-Propanetriol, uses 77-86-1D, esters with polyalkylene 77-99-6D, esters with polyalkylene 107-21-1D, 1,2-Ethanediol, esters with polyalkylene 115-77-5D, Pentaerythritol, esters with polyalkylene
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)
- IT 56-18-8D, reaction products with polybutenated succinic acid 110-15-6D, Succinic acid, polyalkene derivs., reaction products with amines 111-40-0D, Diethylenetriamine, reaction products with polybutenated succinic acid 115-77-5D, reaction products with polybutenated succinic acid 124-09-4D, 1,6-Hexanediamine, reaction products with polybutenated succinic acid 4067-16-7D, Pentaethylenehexamine, reaction products with polybutenated succinic acid 4097-89-6D, Tris(2-aminoethyl)amine, reaction products with polybutenated succinic acid 6528-88-7 7663-77-6D, reaction products with polybutenated succinic acid
RL: USES (Uses)
(dispersants, in calcium-free lubricating compns.)
- IT 98-11-3D, Benzenesulfonic acid, alkyl derivs., reaction products with polybutenated succinic anhydride, sodium alts, overbased 13598-36-2D, Phosphonic acid, alkali metal salts, overbased
RL: USES (Uses)
(lubricating compns. contg., calcium free)
- IT 108-30-5D, Succinic anhydride, polybutenyl derivs. sodium salt, overbased 15834-33-0D, Phosphorodithioic acid, esters, complexes 15834-33-0D, Phosphorodithioic acid, esters, zinc complexes 19028-33-2D, overbased 61447-13-0D, overbased
RL: USES (Uses)
(lubricating compns. contg., calcium-free)
- IT 148196-22-9D, zinc complexes
RL: USES (Uses)
(lubricating compns. contg., calcium-free, for oxidn. and wear resistance)
- IT 90093-38-2, Super filtrol
RL: USES (Uses)
(sulfurization promoter for antioxidant for calcium-free lubricating compns.)
- IT 50-70-4, D-Glucitol, uses
RL: USES (Uses)
(dispersants, in calcium free lubricating compns.)
- RN 50-70-4 HCAPLUS
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L53 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:476151 HCAPLUS
DN 119:76151
TI Lubricating oils for U-shaped press used in steel pipes manufacturing
IN Kato, Yoshio; Moribe, Kenji
PA Sumitomo Metal Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C10M169-04

ICS B21C037-08; B21J003-00

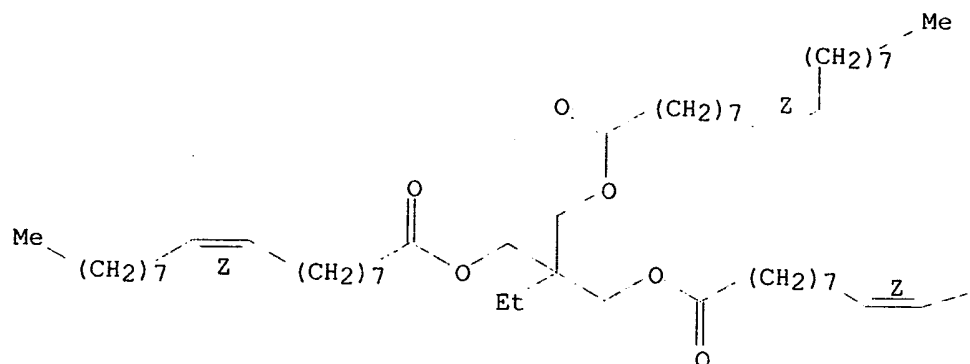
ICI C10M169-04, C10M105-36, C10M105-38, C10M135-22, C10M143-06, C10M145-14;
C10N030-02, C10N030-06, C10N040-24CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 55

FAN.CNT 1

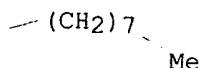
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05043887	A2	19930223	JP 1991-200784	19910809
AB	The title lubricating oils comprise 1-3 wt.% of an extreme-pressure additive , .ltoreq.3 wt.% of a viscosity-index improver, and the balance as a synthetic ester base oil. Thus, a di-tert-dodecyl polysulfide 1, polybutene 3, and a trimethylolpropane trioleate ester 96 wt.% were blended to form a stable lubricating oil for U-shaped press.				
ST	steel rolling lubricating oil polybutene; trimethylolpropane trioleate ester lubricating oil				
IT	Polysulfides				
	RL: USES (Uses)				
	(di-tert-dodecyl, extreme-pressure additive , for lubricating oils, for U-shaped press used in steel pipes manufg.)				
IT	Lubricating oil additives				
	(extreme-pressure, alkyl polysulfides, for U-shaped press used in steel pipes manufg.)				
IT	Lubricating oil additives				
	(viscosity improvers, polybutene, for U-shaped press used in steel pipes manufg.)				
IT	57675-44-2, Trimethylolpropane trioleate				
	RL: USES (Uses)				
	(lubricating base oil, for U-shaped press used in steel pipes manufg.)				
IT	9003-28-5, Polybutene				
	RL: USES (Uses)				
	(viscosity-index improver, for lubricating oils, for U-shaped press used in steel pipes manufg.)				
IT	57675-44-2, Trimethylolpropane trioleate				
	RL: USES (Uses)				
	(lubricating base oil, for U-shaped press used in steel pipes manufg.)				
RN	57675-44-2 HCAPLUS				
CN	9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxylmethyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)				

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



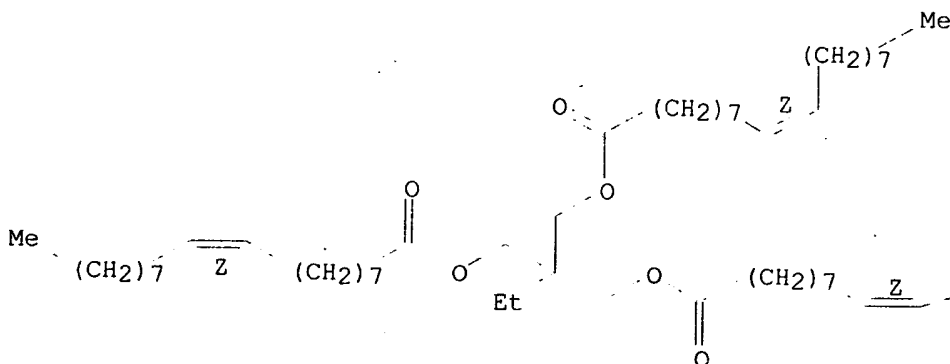
L53 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1992:554337 HCAPLUS
 DN 117:154337
 TI Cold-rolling oils for stainless steel plates
 IN Inoue, Yasumasa; Michitani, Noboru; Tsukamoto, Tetsuya; Mori, Ikuo; Ikeda, Toshikazu
 PA Nippon Quaker Chemical, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M137-08
 ICS C10M169-04
 ICI C10M169-04, C10M105-38, C10M137-08; C10N020-02, C10N030-06, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 FAN.CNT 1

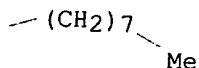
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04117495	A2	19920417	JP 1990-236812	19900905
	JP 07086200	B4	19950920		
AB	The rolling oil compn. comprises 100 synthetic lubricating oil having 40.degree. viscosity >80 cSt (e.g., pentaerythritol trioleate) and				

- 0.2-5 wt. parts additives contg. arom. amine salts of org. acidic phosphoric acid esters. A suitable additive is prepd. by reacting phosphoric acid with butanol followed by neutralizing with 4-octyldiphenylamine.
- ST lubricating rolling oil synthetic ester; amine ester additive rolling oil
- IT Lubricating oil additives
(contg. arom. amine salts of phosphoric acid esters, for cold rolling of steel plates)
- IT Lubricating oils
(cold-rolling, for stainless steel plates, compns. for)
- IT 86-25-9D, Octyldiphenylamine, reaction products with ester of phosphoric acid and butanol 12645-53-3D, reaction products with octyldiphenylamine 12788-93-1D, reaction products with octyldiphenylamine 15383-23-0D, reaction products with ester of phosphoric acid and isooctyl alc.
RL: USES (Uses)
(additives, for rolling oils)
- IT 12597-68-1
RL: USES (Uses)
(lubricating oils, cold-rolling, for stainless steel plates, compns. for)
- IT 39874-62-9, Pentaerythritol trioleate 57675-44-2, Trimethylolpropane trioleate
RL: USES (Uses)
(synthetic lubricating oil, for cold rolling)
- IT 57675-44-2, Trimethylolpropane trioleate
RL: USES (Uses)
(synthetic lubricating oil, for cold rolling)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A





L53 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1992:258914 HCAPLUS
 DN 116:258914
 TI Antiemulsion/antifoam agent for use in oils
 IN Galic, Mary; Jolley, Scott T.; Salomon, Mary F.
 PA Lubrizol Corp., USA
 SO U.S., 14 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C10M001-20
 NCL 252-52A
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5084197	A	19920128	US 1990-586469	19900921
	US 5198135	A	19930330	US 1991-740694	19910806
	CA 2051495	AA	19920322	CA 1991-2051495	19910916
	AU 9184567	A1	19920326	AU 1991-84567	19910918
	AU 646689	B2	19940303		
	JP 05194978	A2	19930803	JP 1991-238416	19910918
	NO 9103691	A	19920323	NO 1991-3691	19910919
	FI 9104430	A	19920322	FI 1991-4430	19910920
	EP 482759	A1	19920429	EP 1991-308591	19910920
	EP 482759	B1	19960327		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	BR 9104109	A	19920602	BR 1991-4109	19910920
	AT 136053	E	19960415	AT 1991-308591	19910920
	ES 2087974	T3	19960801	ES 1991-308591	19910920
PRAI	US 1990-586469		19900921		

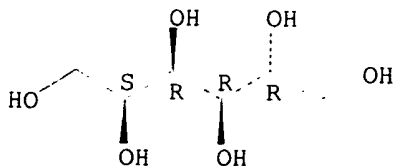
AB A crankcase lubricating oil comprises (A) a polymer having the formula HO(CH₂CH₂CH₂CH₂O)_nH as an antiemulsion agent, where n = 10-50; and .gtoreq.1 of (B) to (E): (B) .gtoreq.1 of a Na, Ca, or Mg detergent, (C) a dispersant, (D) a zinc dialkyldithiophosphate, (E) a viscosity improver, and (F) an antioxidant. Suitable butylene oxide-contg. polymers include propylene oxide-tetrahydrofuran copolymer and Terathane 2000.

ST antiemulsion antifoam engine lubricating oil; polypropylene oxide antiemulsion engine oil; propylene oxide THF antiemulsion engine oil

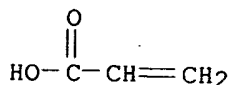
IT Lubricating oil additives
 (antiemulsion-antifoam, butylene oxide-contg. polymers as, for engines)

- IT 25190-06-1, Terathane 25302-85-6, Propylene oxide-THF polymer
 RL: USES (Uses)
 (antiemulsion agent, for crankcase lubricating oils)
- IT 98-11-3D, Benzenesulfonic acid, alkyl derivs., overbased, sodium salts
 RL: USES (Uses)
 (detergents, with polybutylene oxide as antiemulsion-antifoam agent, for engine oils)
- IT 50-00-0D, Formaldehyde, reaction products with polypropyl-substituted phenol and dimethylamine 50-70-4D, D-Glucitol, esters with chlorinated polyisobutylene-**acrylic** acid adducts 79-10-7D, 2-Propenoic acid, reaction products with chlorinated polyisobutylene, esters 108-30-5D, polyisobutenyl derivs., reaction products with tetraethylenepentamine, (esters) 108-95-2D, Phenol, polypropyl-substituted, reaction products with dimethylamine and formaldehyde 111-40-0D, reaction products with isostearic acid 111-96-6D, Diethylene glycol dimethylether, esters with chlorinated polyisobutylene-**acrylic** acid adducts and pentaerythritol 112-57-2D, reaction products with chlorinated polyisobutene 115-77-5D, esters with chlorinated polyisobutylene-**acrylic** acid adducts 124-40-3D, Dimethylamine, reaction products with polypropyl-substituted phenol and formaldehyde 126-30-7D, esters with polyisobutene-substituted succinic anhydride 9003-27-4D, Polyisobutene, chlorinated, reaction products with tetraethylenepentamine 30399-84-9D, Isostearic acid, reaction products with diethylenetriamine
 RL: USES (Uses)
 (dispersants, with butylene oxide-contg. polymers as antiemulsion-antifoam agent, for engine oils)
- IT 15834-33-0D, Phosphorodithioic acid, dialkyl esters, zinc salts 36878-20-3
 RL: USES (Uses)
 (lubricating oils contg., with polybutylene oxide as antiemulsion antifoam agent, for engines)
- IT 50-70-4D, D-Glucitol, esters with chlorinated polyisobutylene-**acrylic** acid adducts 79-10-7D, 2-Propenoic acid, reaction products with chlorinated polyisobutylene, esters
 RL: USES (Uses)
 (dispersants, with butylene oxide-contg. polymers as antiemulsion-antifoam agent, for engine oils)
- RN 50-70-4 HCAPLUS
 CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- RN 79-10-7 HCAPLUS
 CN 2-Propenoic acid (9CI) (CA INDEX NAME)

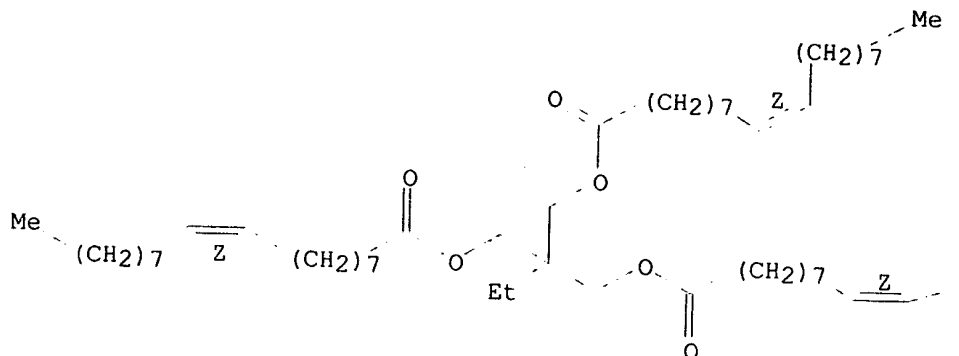


L53 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1990:615200 HCAPLUS
 DN 113:215200
 TI Lubricating oils for plunger tips used in aluminum casting
 IN Kanda, Noboru; Kojika, Noboru; Kikuchi, Shingo
 PA Yushiro Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M111-02
 ICI C10M111-02, C10M101-02, C10M103-06, C10M101-04, C10M105-32; C10N020-02, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 56
 FAN.CNT 1

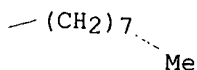
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02215894	A2	19900828	JP 1989-36034	19890217
	JP 06076587	B4	19940928		
AB	The title lubricating oils are prep'd. by blending a mineral base oil with 5-30 wt.% of fats or fatty esters and 2-30 wt.% of talc or fluorinated graphite to obtain a mixt. with kinematic viscosity (.mu.) 250-500 mm ² /s at 40.degree.. Thus, a mineral base oil 80, Unistar-H381 (a fatty ester) 10, talc 5, and montmorillonite 5 wt.% were blended to form a lubricating oil (.mu. 340 mm ² /s at 40.degree.), which was then subjected to the Abrasion test at 200.degree., resulting in a friction coeff. of 0.065, vs. 0.070 for a com. lubricating oil.				
ST	lubricating oil plunger tip talc; fluorinated graphite montmorillonite lubricating oil; fatty ester bentonite graphite lubricating				
IT	Lubricating oil additives (thickeners, montmorillonite or polyisobutene, for plunger tips)				
IT	1344-28-1, Alumina, uses and miscellaneous RL: PEP (Physical, engineering or chemical process); PROC (Process) (casting of, plunger tips in, lubricating oils for)				
IT	14807-96-6, Talc, uses and miscellaneous RL: USES (Uses) (lubricating oils contg. fatty ester and, for plunger tips)				
IT	7782-42-5D, Graphite, fluorinated RL: USES (Uses) (lubricating oils contg. fatty esters and, for plunger tips)				
IT	57675-44-2 RL: USES (Uses) (lubricating oils contg. talc and, for plunger tips)				
IT	1318-93-0, Montmorillonite, uses and miscellaneous 9003-27-4, Polyisobutene RL: USES (Uses) (thickener, for lubricating oils, for plunger tips)				
IT	57675-44-2 RL: USES (Uses) (lubricating oils contg. talc and, for plunger tips)				
RN	57675-44-2 HCAPLUS				
CN	9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)				

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

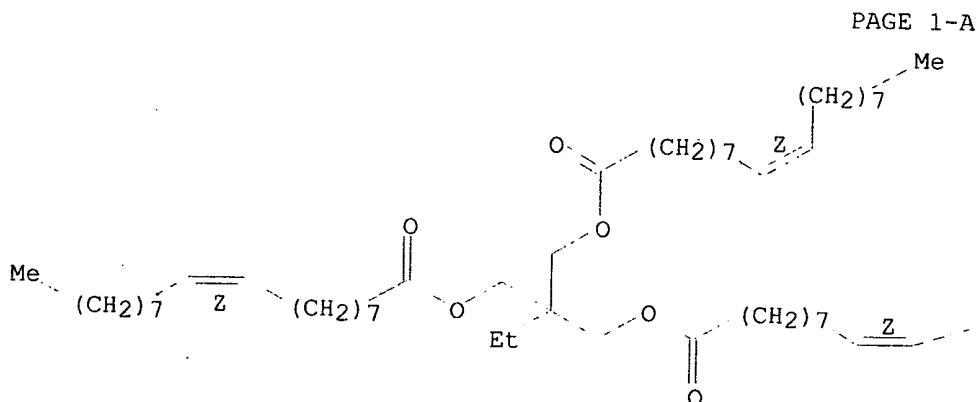


L53 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1990:535546 HCAPLUS
 DN 113:135546
 TI Metalworking lubricating oil compositions for drawing and ironing cans
 IN Okamoto, Yoshio; Inaba, Takashi; Mukai, Takashi
 PA Kao Corp., Japan; Kobe Steel, Ltd.
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C10M169-04
 ICI C10M169-04, C10M101-02, C10M105-12, C10M105-34, C10M105-38, C10M149-02,
 C10M149-06, C10M153-02, C10M125-24; C10N020-02, C10N020-06, C10N040-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55, 56
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02117993	A2	19900502	JP 1988-270239	19881026
AB	The title compns. comprise (a) .gtoreq.1 lubricating base oils chosen from mineral oils (viscosity 50-500 cSt at 40.degree.), C10-40-aliph. alcs., and C8-22 fatty acid esters with monovalent or polyhydric alcs., and (b) water-sol. (in)org. phosphates of (co)polymers of CH2CR1COA(CH2)mNR2R3				

- (R1, R2 and R3 are independently C1-3 alkyl, A = O or NH, m is 1-3) (av. particle size 3-10 .mu.m in water).
- ST lubricating oil drawing ironing can; fatty acid ester metal working lubricant; alc can drawing ironing lubricant; **polymethacrylate** phosphate can lubricating oil
- IT Lubricating oils
(metalworking, contg. **polymethacrylate** phosphates, for drawing and ironing cans)
- IT 111-46-6D, esters with dimer acids 112-53-8, 1-Dodecanol 112-92-5D, 1-Octadecanol, esters with dimer acids 17673-50-6, Oleyl stearate 18641-58-2 26266-58-0, Sorbitan trioleate 27178-16-1, Diisodecyl adipate 57675-44-2, Trimethylolpropanetrioleate 94749-98-1 129380-59-2 129380-61-6 129380-63-8 129380-64-9 129380-65-0
RL: USES (Uses)
(lubricating oils contg., for drawing and ironing cans)
- IT 57675-44-2, Trimethylolpropanetrioleate
RL: USES (Uses)
(lubricating oils contg., for drawing and ironing cans)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



PAGE 1-B

--- (CH2)7

Me

L53 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1989:118122 HCAPLUS
 DN 110:118122
 TI Two-cycle engine oils and/or fuel mixtures containing sulfurized
 alkylphenols and method for lubricating two-cycle engines
 IN Davis, Kirk E.; Ward, William C., Jr.
 PA Lubrizol Corp., USA
 SO U.S., 19 pp. Cont.-in-part of U. S. 4,708,809.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C10M135-10
 ICS C10M141-08
 NCL 252033400
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4740321	A	19880426	US 1986-850315	19860410
	US 4708809	A	19871124	US 1982-385990	19820607
	FR 2528065	A1	19831209	FR 1983-8387	19830520
	FR 2528065	B1	19871127		
	CA 1192539	A1	19850827	CA 1983-429246	19830530
	JP 59011395	A2	19840120	JP 1983-100707	19830606
	JP 04056875	B4	19920909		
	GB 2121432	A1	19831221	GB 1983-15550	19830607
	GB 2121432	B2	19860102		
PRAI	US 1982-385990		19820607		

AB Lubricating oil compns. for 2-cycle engines contain a minor amt., sufficient to control piston ring sticking and promote general engine cleanliness, of >1 phenolic compds. of the general formula $RaAr(OH)b$ or their salts, where R is $C > 10$ alkyl, a and b are independently an integer of 1-3 times the no. of arom. nuclei present in Ar provided that the sum of a and b does not exceed the unsatisfied valences of Ar, and Ar is a linked polynuclear moiety wherein the bridging linkages are S-contg. moieties, having 0-3 optional substituents consisting of lower alkyl, lower alkoxyl, methylol or lower hydrocarbon-based substituted methylol, halo, and combinations of gtoreq.2 of the substituents. In a preferred embodiment, the detergents-dispersants additives (e.g., overbased Ca sulfonates) are present in the lubricating compns. An example of the phenolic compd. is the reaction product of PhOH, propylene tetramer, and SCl_2 .

ST engine two cycle lubricating oil; detergent dispersant sulfurized alkylated phenol; overbased calcium sulfonate engine oil; alkylphenol sulfurized lubricating oil engine

IT Lubricating oil additives
 (detergents-dispersants, contg. sulfurized alkylphenols and, for two-cycle engines)

IT 50-00-0D, Formaldehyde, reaction products with polypropyl-substituted phenol and dimethylamine 50-70-4D, D-Glucitol, reaction products with chlorinated polyisobutylene and acrylic acid 79-10-7D, 2-Propenoic acid, reaction products with chlorinated polyisobutylene and sorbitol or pentaerythritol 108-30-5D, Succinic anhydride, polyisobutenyl derivs., reaction products with polyamines and/or acids or alcs. 111-40-0D, reaction products with isostearic acid 112-57-2D, Tetraethylenepentamine, reaction products with chlorinated polyisobutene or polyisobutenylsuccinic anhydride and isostearic acid 115-77-5D, Pentaerythritol, esters with polyisobutene-derived carboxylic acids 124-40-3D, Dimethylamine,

reaction products with polypropyl-substituted phenol and formaldehyde 126-30-7D, reaction products with chlorinated polyisobutene and maleic anhydride 1304-28-5D, Barium oxide, reaction products with polyisobutenylsuccinic anhydride 9003-27-4D, Polyisobutene, chloro derivs., reaction products with polyamines or acrylic acid-alc. condensation products 30399-84-9D, Isostearic acid, reaction products with polyisobutenylsuccinic anhydride and tetraethylenepentamine

RL: USES (Uses)

(detergents-dispersants, for two-cycle engine oils)

IT 80-05-7D, poly butenylpropenyl derivs. 90-15-3D, 1-Naphthalenol, Polyisobutenyl derivs. 92-88-6D, [1,1'-Biphenyl]-4,4'-diol, polyisobutenyl derivs. 109-00-2D, 3-Pyridinol, Polyisobutenyl derivs. 148-24-3D, 8-Quinolinol, polypropenyl derivs. 21093-23-2 87098-14-4

RL: USES (Uses)

(lubricating oil additive; for two-cycle engines)

IT 108-95-2D, Phenol, polyisobutenyl derivs. 1305-62-0D, Calcium hydroxide, reaction products with phenol, propylene tetramer, and sulfur dichloride 6842-15-5D, Propylene tetramer, reaction products with phenol and/or sulfur dichloride and/or calcium hydroxide 10545-99-0D, Sulfur dichloride, reaction products with phenol and propylene tetramer and/or calcium hydroxide

RL: USES (Uses)

(lubricating oil additives, for two-cycle engines)

IT 50-70-4D, D-Glucitol, reaction products with chlorinated polyisobutylene and acrylic acid 79-10-7D, 2-Propenoic acid, reaction products with chlorinated polyisobutylene and sorbitol or pentaerythritol

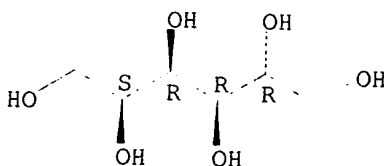
RL: USES (Uses)

(detergents-dispersants, for two-cycle engine oils)

RN 50-70-4 HCAPLUS

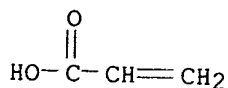
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 79-10-7 HCAPLUS

CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1988:531942 HCAPLUS

DN 109:131942

TI Lubricating oil compositions for processing of metal cans

IN Okamoto, Yoshio; Inaba, Takashi; Mukai, Takashi; Hamai, Toshimasa

PA Kao Corp., Japan; Kobe Steel, Ltd.

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C10M173-00

ICI C10M173-00, C10M149-04, C10M149-06, C10M149-10, C10M149-12, C10M149-22, C10M145-40, C10M151-02; C10N030-00, C10N040-24

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63095295	A2	19880426	JP 1986-240249	19861009
	JP 03013280	B4	19910222		

AB The title **lubricating oils** are prepd. by mixing >1 base oil (e.g., mineral oils, fatty acids, esters or alcs.) with 0.1-20 wt.% of a dispersant-extreme pressure **additive** contg. water-sol. polymers selected from the following groups (a) a monopolymer of N-contg. compds. or its salts such as $\text{CH}_2(\text{:C})\text{R}_1\text{COOCH}_2\text{CHOHCH}_2\text{NR}_2\text{R}_3$ ($\text{R}_1 = \text{H}$ or Me ; R_2 and $\text{R}_3 = \text{H}$ or C1-3 alkyl), or $\text{CH}_2(\text{:C})\text{R}_1\text{COO}(\text{CH}_2\text{CH}_2\text{O})_m(\text{CH}_2)_n\text{NR}_2\text{R}_3$ (m and $n = 1-3$; R_1 , R_2 , and R_3 are defined as above); (b) a copolymer of .gtoreq.1 vinyl-group monomers (e.g., acrylonitrile, pyrrolidone or C2-20 fatty olefins) with .gtoreq.1 N-contg. monomers from (a); (c) an ethyleneimine polymer salt, quaternary ammonium salt or its derivs.; (d) a fatty dicarboxylic acid-polyethylenepolyamine or polyoxyethylenealkylamine polymer salt or quaternary ammonium salt; (e) dihaloalkane-polyalkylenepolyamine condensates; (f) epihalohydrin-amine condensates; (g) starch or cellulose derivs.; and (h) polyether polyols or polyol polyethers (mol. wt. 5000-600,000) from the adducts of polyalkylimines (contg. 6-200 N atoms) with alkylene oxides. Thus, a mineral oil (viscosity 180 cSt at 40.degree.) 87.5, trimethylolpropanetrioleate 10, **diethylaminomethylmethacrylate** polymer phosphoric acid salt (mol. wt. 300,000) 0.5, 2,4-di-tert-butyl-p-cresol 1, and triphenylphosphate 1 wt.% were blended to form a **lubricating oil**, which was then subjected to the four-ball **antiwear** test, resulting in a load resistance of 6.5 kg/cm², vs. 3.0 kg/cm² for a com. **lubricating oil**.

ST lubricating oil metal can processing; **diethylaminomethylmethacrylate***
**** polymer phosphate lubricating oil; trimethylolpropane trioleate lubricating oil; extreme pressure dispersant lubricating oil**

IT *****Lubricating oil additives**
 (extreme-pressure, dispersants, dialkylaminomethylmethacrylate polymer salts or quaternary ammonium salts, for processing of metal cans)

IT 115-86-6, Triphenyl phosphate 544-63-8D, Myristic acid, reaction products with polyethyleneimine, ethylphosphinic acid salt 9002-98-6D, reaction products with myristic acid, ethylphosphinic acid salt 29997-25-9 57675-44-2, Trimethylolpropanetrioleate 91365-66-1 91380-05-1 91380-06-2 95243-11-1 95243-19-9
 RL: USES (Uses)

(lubricating oil compns. contg., for processing of metal cans)

IT 57675-44-2, Trimethylolpropanetrioleate
 RL: USES (Uses)

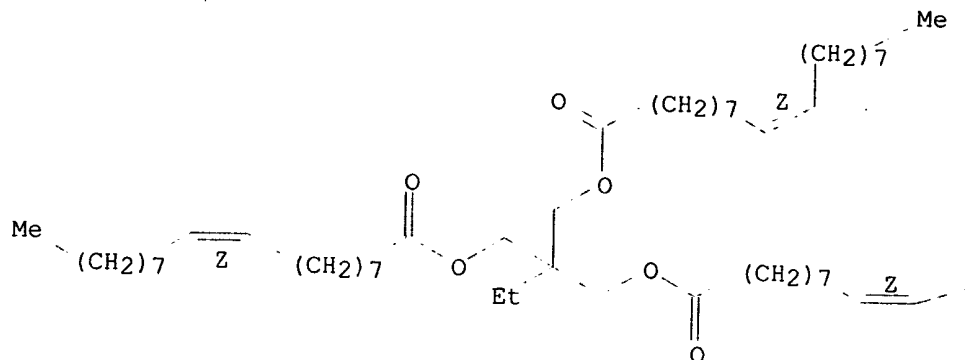
(lubricating oil compns. contg., for processing of metal cans)

RN 57675-44-2 HCAPLUS

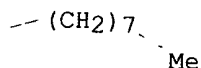
CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1987:105239 HCAPLUS
 DN 106:105239
 TI Esters of unsaturated polymerizable carboxylic acids for preparation of
 oil-soluble polymers as pour-point depressants
 IN Ritter, Wolfgang; Zoellner, Wolfgang
 PA Henkel K.-G.a.A., Fed. Rep. Ger.
 SO Ger. Offen., 26 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C07C069-54
 ICS C07C067-08; C08F020-26; C08F022-20; C08L033-14; C08L035-00;
 C10L001-18; C10M145-10
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 35
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3513356	A1	19861016	DE 1985-3513356	19850415
	DE 3513356	C2	19930923		
	US 4762946	A	19880809	US 1986-851981	19860414
	US 4906702	A	19900306	US 1988-187183	19880428

- PRAI DE 1985-3513356 19850415
US 1986-851981 19860414
- AB Unsatd. esters R1CO(OZCO)nOR (R1 = C2-5 alkenyl; R = satd. or unsatd. C10-24 hydrocarbyl; OZCO = residue of OH-contg. C2-6 carboxylic acid; n = 1-18) are prepd. and polymd. to prep. homo- and copolymers which are useful as pour-point depressants in paraffin- and/or wax-contg. oils. Thus, 1 mol tallow alc. and 1 mol Et lactate were used to prep. an ester having OH no. 176.9 and acid no. 0.3. The ester (0.3 mol) was esterified with 0.3 mol **methacrylic acid** in the presence of 1% **hydroquinone**, 5% p-toluenesulfonic acid, and 200 ppm phenothiazine in boiling toluene. The **methacrylate** ester was polymd. in toluene in the presence of AIBN. Adding the polymer (100 ppm) to a mixt of 85 parts naphtha (b. 145-200.degree.) and 15 parts paraffin wax (softening point 46-48.degree.) reduced the pour point of the mixt. by 11.degree..
- ST polyester **methacrylate** prepn polymn; tallow alc lactate **methacrylate** polymer; **polymethacrylate** pour point depressant; hydrocarbon pour point depressant; oil pour point depressant
- IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(**methacrylates**, polymers, as pour-point depressants)
- IT Polymerization
(of **methacrylate** esters of poly(hydroxyalkanoic acid) alkyl esters)
- IT Esterification
(of **methacrylic acid** with poly(hydroxyalkanoic acid) alkyl esters)
- IT Pour-point depressants
(polymers of esters of fatty alcs., hydroxycarboxylic acids, and unsatd. carboxylic acids as)
- IT Lubricating oil additives
(pour-point depressants, polymers of esters of fatty alcs., hydroxycarboxylic acids, and unsatd. carboxylic acids as)
- IT 661-19-8, Behenyl alcohol
RL: RCT (Reactant)
(esterification of, with lactide)
- IT 107070-31-5DP, tallow alkyl esters, polymers 107070-37-1DP, tallow alkyl esters, polymers 107120-11-6DP, tallow alkyl esters, polymers
RL: PREP (Preparation)
(manuf. of, as pour-point depressant)
- IT 42175-34-8P 107070-28-0P
RL: PREP (Preparation)
(prepn. and esterification with **methacrylic acid**)
- IT 107049-41-2P 107049-42-3P 107120-07-0P 107120-09-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification with unsatd. carboxylic acid)
- IT 79-39-0DP, Methacrylamide, polymers with esters of **methacrylic acid**, hydroxycarboxylic acid, and fatty alcs. 6852-91-1DP, tallow alkyl esters, polymers
RL: PREP (Preparation)
(prepn. of, as pour-point depressant)
- IT 79-14-1DP, esters with tallow alcs. and **methacrylic acid**
95-96-5DP, esters with fatty alcs. and **methacrylic acid**
97-64-3DP, Ethyl lactate, esters with tallow alcs. and **methacrylic acid** 107070-29-1P 107070-30-4P
RL: PREP (Preparation)
(prepn. of, for polymn. as pour-point depressant)
- IT 79-41-4DP, **Methacrylic acid**, esters with hydroxycarboxylic acids and fatty acids 107049-39-8P 107049-40-1P 107120-08-1P

107120-10-5P

RL: PREP (Preparation)

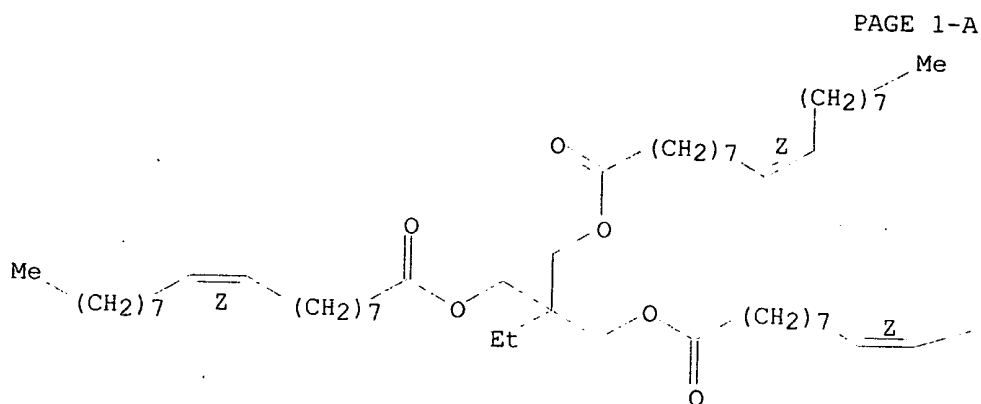
(prepn. of, for polymn. as pour-point depressants)

L53 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1986:556020 HCAPLUS
 DN 105:156020
 TI Mist lubrication
 IN Zehler, Eugene R.; Flake, Clark J.
 PA National Distillers and Chemical Corp., USA
 SO U.S., 10 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C10M107-20
 ICS C10M107-32
 NCL 252-56S
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4601840	A	19860722	US 1985-747462	19850621
	AU 8658747	A1	19861224	AU 1986-58747	19860616
	CA 1279060	A1	19910115	CA 1986-511801	19860618
	ES 556225	A1	19880501	ES 1986-556225	19860619
	JP 61296091	A2	19861226	JP 1986-143091	19860620
	JP 07068536	B4	19950726		
	EP 206280	A2	19861230	EP 1986-108427	19860620
	EP 206280	A3	19871014		
	R: DE, FR, GB, IT, NL, SE				
	BR 8602881	A	19870217	BR 1986-2881	19860620
PRAI	US 1985-747462		19850621		
	US 1985-747463		19850621		
AB	Mist lubricating oils (i.e., for generation of a mist to be deposited on a metal surface) contain a synthetic ester (viscosity 15-300 cSt at 40.degree.) 45-95, low mol.-wt. polyisobutene (I, av. mol. wt. 4000-10,000) 8-40, and high mol. wt. I (av. mol. wt. 25,000-300,000) 0.1-1 wt. part. The esters are selected from (1) esters derived from C3-12-aliph. polyols (with 2-8 OH groups) and C5-20-fatty acids, (2) C8-16-alkyl trimellitates, and (3) esters derived from C1-13-alcs. and a polymeric fatty acid contg. .gtoreq.75% C36-dimer acids. Thus, 27.5 wt. parts low mol. wt. I (mol. wt. 7573) and 0.33 wt. parts high mol. wt. I (mol. wt. 89,793) were dissolved in inert hydrocarbons, blended with 63.1 wt. parts fatty acid dimer di-2-ethylhexyl esters (91 cSt at 40.degree., acid value <3, hydroxyl value .ltoreq.2) at 90.degree., cooled to .apprx.60.degree., and mixed with 3.5 wt. parts com. ashless multipurpose gear oil additive. The oil was applied to a hot strip mill for lubrication of bearings after being misted in air at 70-80 psig and 170-200.degree.F. Excellent misting, no restriction or clogging of reclassifier heads, and increased performances were obsd. in comparison with com. available mineral oil mist lubricants.				
ST	mist lubricating oil ester polyisobutene; polyol ester mist lubricating oil; trimellitate ester mist lubricating oil; fatty acid dimer ester lubricant				
IT	Lubricating oils				
	(mist, contg. synthetic esters and polyisobutylene)				
IT	Fatty acids, polymers				
	RL: USES (Uses)				
	(C18-unsatd., dimers, di-2-ethylhexyl or diisodecyl esters, mist lubricating oils contg. polyisobutene and)				

- IT Fatty acids, esters
 RL: USES (Uses)
 (C5-20, esters with C3-12-aliph. polyols, mist lubricating oils contg. polyisobutene and)
- IT 9003-27-4
 RL: USES (Uses)
 (mist lubricating oils contg. esters and)
- IT 52276-62-7 57675-44-2 68541-50-4 104558-82-9
 RL: USES (Uses)
 (mist lubricating oils contg. polyisobutylenes and)
- IT 57675-44-2
 RL: USES (Uses)
 (mist lubricating oils contg. polyisobutylenes and)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



(CH2)7

Me

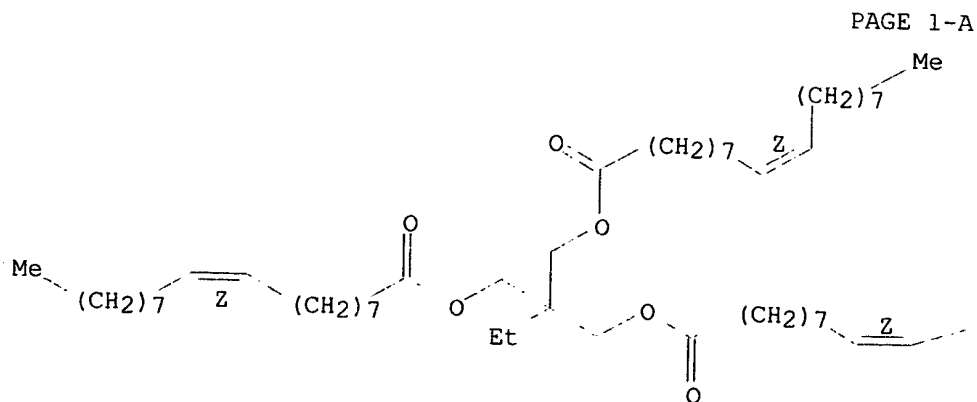
L53 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1986:108990 HCAPLUS
 DN 104:108990
 TI Synthesis and physicochemical properties of organofluorine esters of acrylic, methacrylic, and maleic acids

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

- AU Gol'din, G. S.; Averbakh, K. O.; Nekrasova, L. A.; Lavygin, I. A.; Leitan, O. V.; Chalbysheva, N. V.
 CS Gos. Nauchno-Issled. Inst. Khim. Tekhnol. Elementoorg. Soedin., USSR
 SO Zh. Prikl. Khim. (Leningrad) (1985), 58(6), 1349-53
 CODEN: ZPKHAB; ISSN: 0044-4618
 DT Journal
 LA Russian
 CC 23-17 (Aliphatic Compounds)
 Section cross-reference(s): 22, 39, 51
 OS CASREACT 104:108990
 AB $\text{CH}_2\text{CRCO}_2\text{CH}_2(\text{CF}_2)_n\text{H}$ ($\text{R} = \text{H}, \text{Me}; n = 2, 4, 6$) and $\text{cis-H}(\text{CF}_2)_n\text{CH}_2\text{O}_2\text{CCH:CHCO}_2\text{CH}_2(\text{CF}_2)_n\text{H}$ (same n) were prep'd. by direct esterification in refluxing C_6H_6 or PhMe contg. H_2SO_4 , sulfonated coal and hydroquinone, or from $\text{CH}_2\text{CMeCOCl}$ and $\text{H}(\text{CF}_2)_4\text{CH}_2\text{OH}$. Their $d.$, temp. coeff. of $d.$, and viscosity increased, and their refractive index, surface tension and the temp. coeff. of the latter decreased with increasing n . The molar vol. and surface energy of the esters also increased with n , the coeffs. of the linear functions increasing linearly with temp.
 ST polyfluoroalkyl acrylate methacrylate maleate prep'n property; monomer fluorinated prep'n property; lubricant additive prep'n property
 IT Molar volume and Molecular volume
 Surface tension
 (of polyfluoroalkyl acrylates, methacrylates and maleates, temp. dependence of)
 IT Surface energy
 (of polyfluoroalkyl acrylates, methacrylates, and maleates, temp. dependence of)
 IT Lubricating oil additives
 (polyfluoroalkyl acrylates, methacrylates and maleates, prep'n. and properties of)
 IT Monomers
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyfluoroalkyl acrylates, methacrylates and maleates, prep'n. and properties of)
 IT 355-93-1P 376-84-1P 2261-99-6P 2993-85-3P 7383-71-3P 60100-40-5P
 63578-77-8P 63578-78-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prep'n. and physicochem. properties of, temp. dependence of)
 L53 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1984:574426 HCAPLUS
 DN 101:174426
 TI Lubricant suitable for use at high temperature
 IN Seiki, Hiromichi
 PA Idemitsu Kosan Co., Ltd., Japan
 SO Ger. Offen., 13 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C10M003-44; C10M003-20
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1
- | | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | DE 3400769 | A1 | 19840719 | DE 1984-3400769 | 19840112 |
| | DE 3400769 | C2 | 19861218 | | |
| | JP 59129294 | A2 | 19840725 | JP 1983-4225 | 19830117 |
| | JP 03059956 | B4 | 19910912 | | |

- | | | | | |
|-------------------|----|----------|----------------|----------|
| US 4519927 | A | 19850528 | US 1983-566497 | 19831229 |
| GB 2134922 | A1 | 19840822 | GB 1984-586 | 19840110 |
| GB 2134922 | B2 | 19851113 | | |
| FR 2539426 | A1 | 19840720 | FR 1984-665 | 19840117 |
| FR 2539426 | B1 | 19870717 | | |
| PRAI JP 1983-4225 | | 19830117 | | |
- AB The title **lubricating** oil compn., for machining, contains 25-98% alkyl Ph silicone or alkyl alkylphenyl silicone, 10-30% hindered aliph. ester, and an **additive** package. Suitable silicones are MePh silicone or hexyl 4-propylphenyl silicone; hindered esters include trimethylolpropane and pentaerythritol esters of oleic acid, adipic acid, and stearic acid.
- ST high temp silicone lubricating oil; methyl phenyl silicone lubricating oil; hexyl propylphenyl silicone lubricating oil; trimethylolpropane ester lubricating oil; pentaerythritol ester lubricating oil
- IT Lubricating oils
(for machining, high-temp., contg. alkyl aryl silicones and hindered esters)
- IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(hexyl propylphenyl, high-temp. machining lubricating oils contg.)
- IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(Me Ph, high-temp. machining lubricating oils contg.)
- IT 77-99-6D, esters with adipic acid and stearic acid 115-77-5D, esters with adipic acid and stearic acid **57675-44-2**
RL: USES (Uses)
(high-temp. machining lubricating oils contg.)
- IT **57675-44-2**
RL: USES (Uses)
(high-temp. machining lubricating oils contg.)
- RN 57675-44-2 HCAPLUS
- CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-octadecenyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



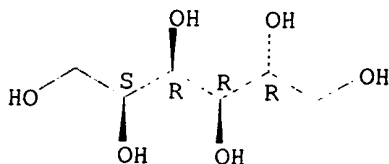
— (CH₂)₇ Me

L53 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1984:71066 HCAPLUS
 DN 100:71066
 TI Lubricant compositions, containing alkylphenols, for 2-stroke engines
 IN Davis, Kirk Emerson
 PA Lubrizol Corp., USA
 SO Ger. Offen., 81 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C10M001-20; C10M003-14
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 2

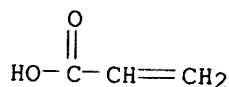
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3320396	A1	19831208	DE 1983-3320396	19830606
	DE 3320396	C2	20000120		
	US 4708809	A	19871124	US 1982-385990	19820607
	FR 2528065	A1	19831209	FR 1983-8387	19830520
	FR 2528065	B1	19871127		
	CA 1192539	A1	19850827	CA 1983-429246	19830530
	JP 59011395	A2	19840120	JP 1983-100707	19830606
	JP 04056875	B4	19920909		
	GB 2121432	A1	19831221	GB 1983-15550	19830607
	GB 2121432	B2	19860102		
PRAI	US 1982-385990		19820607		
AB	Lubricating oil compns. for 2-stroke engines contain 4.5-15% of an alkylated phenol or its derivs. and 1.5-3% of a detergent-dispersant compn. Suitable alkylphenol compns. include polyisobutenylphenol, polypropylenephenol (or their bis(methylol) derivs.), and alkyl derivs. of dihydroxybiphenyl, resorcinol, .alpha.-naphthol, anthracenol, quinolinol, and hydroxypyridine. The detergents-dispersants include overbased alk. earth metal additives, Mannich bases, polyacid-polyamine condensation products, and polyacid-alc. condensation products (e.g., reaction products of polyisobutenylsuccinic anhydride with neopentyl glycol and pentaerythritol).				
ST	alkylphenol lubricating oil detergent dispersant; engine two stroke lubricant				
IT	Sulfonic acids, compounds				
RL:	USES (Uses)				
	(alk. earth salts, overbased, detergent dispersants, for two-stroke				

- engine oils)
- IT Lubricating oil additives
(contg. alkylphenols and detergent dispersants, for two-stroke engines)
- IT Mannich bases
RL: USES (Uses)
(lubricating oil additives, for two-stroke engines)
- IT Phenols, uses and miscellaneous
RL: USES (Uses)
(alkyl, lubricating oil additives, for two-stroke engines)
- IT Amines, compounds
RL: USES (Uses)
(polyalkylenepoly-, reaction products with polyisobutenylsuccinic anhydride and isostearic acid, lubricating oil additives, for two-stroke engines)
- IT 50-00-0D, reaction products with polyalkenylphenols 50-70-4D, reaction products with acrylic acid and chlorinated polyisobutene 79-10-7D, reaction products with chlorinated polyisobutene and sorbitol or pentaerythritol 90-15-3D, 4-polyisobutenyl derivs. 92-88-6D, 2,2'-bis(polyisobutenyl) derivs. 108-30-5D, polyisobutenyl derivs., reaction products with acids and alcs. or polyamines 108-95-2D, polyalkenyl derivs., reaction products with formaldehyde and amines 109-00-2D, 4-polyisobutenyl derivs. 111-40-0D, reaction products with isostearic acid 112-57-2D, reaction products with chlorinated polyisobutene 115-77-5D, mixed esters with polyisobutene-derived carboxylic acids 124-40-3D, reaction products with polypropenylphenol and formaldehyde 148-24-3D, polypropenyl derivs. 9002-98-6D, reaction products with polyisobutenylsuccinic anhydride 9003-27-4D, chloro derivs., reaction products with polyamines or acrylic acid-alc. condensation products 21093-23-2 30399-84-9D, reaction products with polyamines and polyisobutenylsuccinic anhydride 88707-55-5
RL: USES (Uses)
(lubricating oil additives, for two-stroke engines)
- IT 50-70-4D, reaction products with acrylic acid and chlorinated polyisobutene 79-10-7D, reaction products with chlorinated polyisobutene and sorbitol or pentaerythritol
RL: USES (Uses)
(lubricating oil additives, for two-stroke engines)
- RN 50-70-4 HCAPLUS
- CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- RN 79-10-7 HCAPLUS
- CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1983:595551 HCAPLUS

DN 99:195551

TI Preparation of monomers for poly(alkyl methacrylates) used as lubricating oil additives

IN Baliu, Sotir; Crisan, Livia; Luca, Paula; Iordache, Gheorghe; Popescu, Stefan

PA Combinatul Petrochimic, Teleajen, Rom.

SO Rom., 3 pp.

CODEN: RUXXA3

DT Patent

LA Romanian

IC C10M001-28

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 51

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 71425	B	19830429	RO 1977-90588	19770607
AB	Viscosity-index improvers-pour-point depressants for engine lubricating oils are prep'd. by conventional polymn. of monomers produced by a new rapid (4-6-h), stepped-injection technique for the transesterification of excess Me methacrylate (I) [80-62-6] with C6-20 alcs. (molar ratio 1.5-3.0:1) in the presence of H2SO4 (acid catalyst) and hydroquinone (polymn. inhibitor). Post-reaction isolation of the alc.-methacrylate esters is achieved (1) by neutralization on solid Na2CO3, in the case of C10-20 esters and (2) by distn. with 10-20% heavy mineral oil, followed by washing with aq. Na2CO3, in the case of C6-10 esters. Thus, 2-ethylhexanol [104-76-7] 130, H2SO4 2.6, and hydroquinone 0.7 g are refluxed at 130.degree. with 200 g I, added at 40 g/h, for 5 h with distn. of MeOH for a 95% yield of 2-ethylhexyl methacrylate [688-84-6], sepd. by isolation method 2 after vacuum distn. of excess I.				
ST	methyl methacrylate transesterification ethylhexanol; methacrylate ester viscosity index; lubricant additive methacrylate monomer; pour point depressant methacrylate				
IT	Transesterification				
	(of Me methacrylate with C6-20 alcs.)				
IT	Alcohols, reactions				
	RL: RCT (Reactant)				
	(C6-20, transesterification of, with Me methacrylate)				
IT	Lubricating oil additives				
	(pour-point depressants-viscosity index improvers, poly(alkyl methacrylates), prepn. of monomers for)				
IT	497-19-8, uses and miscellaneous				
	RL: USES (Uses)				
	(in transesterification of Me methacrylate with C6-20 alcs.)				
IT	688-84-6P				
	RL: PREP (Preparation)				
	(prepn. of, by transesterification of Me methacrylate)				
IT	104-76-7				
	RL: RCT (Reactant)				
	(transesterification of, with Me methacrylate)				

IT 80-62-6

RL: RCT (Reactant)

(transesterification of, with ethylhexanol)

L53 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1983:201191 HCAPLUS

DN 98:201191

TI Multicomponent composition for use in lubricants

IN Barrer, Daniel Edward

PA Lubrizol Corp. , USA

SO Ger. Offen., 71 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C10M001-26; B01F017-00

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3232028	A1	19830324	DE 1982-3232028	19820827
	FR 2512458	A1	19830311	FR 1982-14645	19820826
	FR 2512458	B3	19841214		
	CA 1183125	A1	19850226	CA 1982-410414	19820830
	GB 2105743	A1	19830330	GB 1982-25111	19820903
	JP 58057499	A2	19830405	JP 1982-157387	19820909
PRAI	US 1981-301095		19810910		

AB A multicomponent compn. for lubricants, esp. lubricating oils, consists of 0.41-40 wt.% fatty (C8-28) tartrates esters and 1.0-7.14 wt.% detergent-dispersants (e.g., polyalkenylsuccinic anhydride-polyamine reaction products or polyisobutenylphenol-formaldehyde-polyethyleneimine Mannich bases). Other preps. for the detergent-dispersant additives include polyamine condensations products with acids prep'd. from polychloropolybutene-Me methacrylate, hydrolyzed polychloropolybutene-KCN, and Na malonic ester-brominated wax reaction products. The tartrates have a no. of functions (e.g., antifriction, antirust, or antioxidant).

ST fatty tartrate lubricating oil multifunctional; detergent dispersant lubricating oil; polyamine alkenylsuccinic detergent dispersant lubricant; Mannich phenolic resin lubricant dispersant; antirust antioxidant tartrate lubricating oil; antifriction tartrate lubricating oil

IT Phenolic resins, compounds

RL: USES (Uses)

(reaction products with polyethyleneimine, sulfurized, lubricating oil detergents-dispersants)

IT Mannich bases

RL: USES (Uses)

(sulfurized, lubricating oil detergent-dispersants)

IT Lubricating oil additives

(detergent-dispersants, Mannich bases or polyalkenylsuccinic-polyamine reaction products)

IT Rubber, synthetic

RL: USES (Uses)

(ethylene-hexadiene-propene, reaction products with maleic anhydride, condensation products with polyethyleneimine, lubricating oil detergents-dispersants)

IT Lubricating oil additives

(multifunctional, fatty alkyl tartrates)

IT 50-70-4D, reaction products with polyisobutenylsuccinic anhydride

67-56-1D, reaction products with polyisobutenylsuccinic anhydride
 69-65-8D, condensation products with polybutene-chloroacetyl chloride
 acetyl chloride reaction products 79-04-9D, reaction products with
 polybutene and mannitol 79-10-7D, reaction products with
 chloropolybutene, condensation product with polyamines 80-62-6D,
 reaction products with chloropolybutene, condensation product with
 polyamines 103-76-4D, reaction products with polyisobutenylsuccinic
 anhydride and sodium carbonate 107-15-3D, reaction products with acids
 or phenolic resins 108-30-5D, polyisobutenyl derivs., reaction products
 with polyamine or alcs. 108-95-2D, polyisobutenyl derivs., reaction
 products with formaldehyde and polyethyleneimine, sulfurized 111-40-0D,
 reaction products with polyisobutenylsuccinic anhydride 112-24-3D,
 condensation products with chloropolybutene-Me **methacrylate**
 reaction products 115-77-5D, reaction products with
 polyisobutenylsuccinic anhydride 126-30-7D, reaction products with
 polyisobutenylsuccinic anhydride 141-95-7D, ester, reaction products
 with brominated wax and polyethyleneimine 143-28-2D, reaction products
 with polyisobutenylsuccinic anhydride 497-19-8D, reaction products with
 polybutenylsuccinic anhydride and hydroxyethylpiperazine 1304-28-5D,
 reaction products with polyisobutenylsuccinic anhydride and
 polyethyleneimine 1309-48-4D, reaction products with
 polyisobutenylsuccinic anhydride and polyethyleneimine 1314-13-2D,
 reaction products with polyisobutenylsuccinic anhydride and
 polyethyleneimine 4067-16-7D, reaction products with acids 4461-39-6D,
 reaction products with polyisobutenylsuccinic anhydride 7704-34-9D,
 reaction products with polyisobutenylphenol-formaldehyde-polyethyleneimine
 Mannich bases 9002-98-6D, reaction products with acids, 9003-29-6D,
 carboxy derivs., condensation products with polyamines 9046-49-5D,
 reaction products with maleic anhydride and polyethyleneimine
 10361-37-2D, reaction products with polyisobutenylsuccinic anhydride and
 polyethyleneimine 25322-68-3D, reaction products with
 polyisobutenylsuccinic anhydride 44816-77-5D, reaction products with
 polyisobutenylsuccinic anhydride 63943-90-8D, reaction products with
 polyethyleneimine

RL: USES (Uses)

(lubricating oil detergents-dispersants)

IT 87-69-4D, fatty esters 108-31-6D, reaction products with
 ethylene-hexadiene-propene copolymer and polyethyleneimine

RL: USES (Uses)

(multifunctional lubricating oil additives
)

IT 50-70-4D, reaction products with polyisobutenylsuccinic anhydride
 79-10-7D, reaction products with chloropolybutene, condensation
 product with polyamines

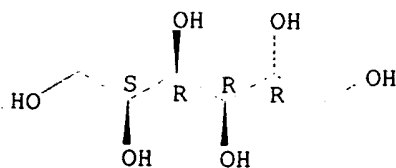
RL: USES (Uses)

(lubricating oil detergents-dispersants)

RN 50-70-4 HCAPLUS

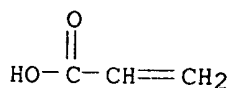
CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 79-10-7 HCAPLUS

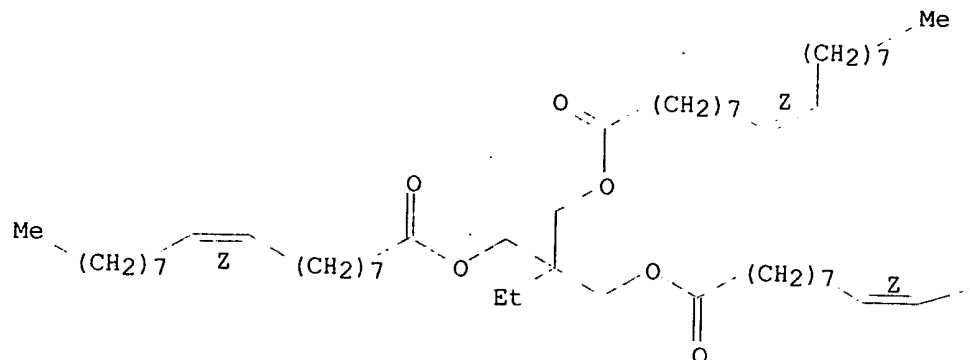
CN 2-Propenoic acid (9CI) (CA INDEX NAME)



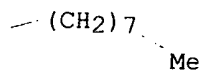
- L53 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1980:518437 HCAPLUS
 DN 93:118437
 TI Study on the effects of lubricants with some additives
 in hot rolling of steel plate. 2
 AU Motomura, M.; Sato, K.
 CS Cast. Res. Lab., Waseda Univ., Tokyo, Japan
 SO Chuken Hokoku (Waseda Daigaku Imono Kenkyusho) (1979), 33, 7-19
 CODEN: CHHODH
 DT Journal
 LA Japanese
 CC 55-11 (Ferrous Metals and Alloys)
 Section cross-reference(s): 51
 AB An available new lubricant and some additives are
 described in hot rolling of steel for improved surface quality. The oxide
 film of the steel surface must be thin and the surface flat after hot
 rolling. Many lubricants and additives such as
 phosphite esters and fatty acid esters were used for hot-rolling tests.
 The best additives for the base oil in hot-rolling of steel were
 hindered esters, fatty acid esters, Binisizer 105 [84-77-5], and
 phosphite ester LB 400 [74565-36-9].
 ST lubricant hot rolling steel; lubricating oil
 additive rolling
 IT Fatty acids, esters
 RL: USES (Uses)
 (esters, lubricating oils contg., for hot-rolling of steel)
 IT Lubricating oil additives
 Lubricating oils
 (for hot-rolling of steel plates)
 IT Glycerides, uses and miscellaneous
 (C18 mono, lubricating oils contg., for hot-rolling of steel)
 IT Glycerides, compounds
 (C18-unsatd. mono, ethoxylated, lubricating oils contg., for hot
 rolling of steel plate)
 IT 78-32-0 84-77-5 112-80-1, uses and miscellaneous 7778-77-0D, dialkyl
 ester 10332-32-8 15834-33-0D, O,O'-dialkyl ester, zinc salt
 54173-85-2D, phosphate, alkyl esters 57675-44-2 59400-09-8
 74484-73-4 74565-27-8 74565-31-4 74565-36-9 74566-07-7
 RL: USES (Uses)
 (lubricating oils contg., for hot-rolling of steel)
 IT 57675-44-2
 RL: USES (Uses)
 (lubricating oils contg., for hot-rolling of steel)
 RN 57675-44-2 HCAPLUS
 CN 9-Octadecenoic acid (9Z)-, 2-ethyl-2-[[[(9Z)-1-oxo-9-
 octadecenyl]oxy)methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L53 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1980:498285 HCAPLUS
 DN 93:98285
 TI Polymeric compositions, and lubricants containing them
 IN Coleman, Lester E.
 PA Lubrizol Corp., USA
 SO U.S., 10 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC C10M001-32
 NCL 252051500A
 CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 35, 37

FAN.CNT 1

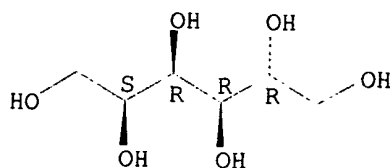
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4194985	A	19800325	US 1974-433322	19740114
	US 4230843	A	19801028	US 1979-8737	19790202
	US 4374034	A	19830215	US 1980-140945	19800416
PRAI	US 1974-433322		19740114		
	US 1979-8736		19790202		

AB Lubricating-oil additives were manufd. by

- copolymn. of (usually N-contg.) oil-sol. dispersants (esp. polyisobutenylsuccinic anhydride reaction products with polyakylenepolyamines) with, e.g., styrene, acrylonitrile, diacetone acrylamide, or their mixts.
- ST polymer dispersant **lubricating oil**; succinimide
copolymer **lubricant** dispersant; polyisobutenylsuccinimide
copolymer **lubricant** dispersant
- IT **Lubricating oils**
(comprn. and properties of)
- IT **Lubricating oil additives**
(multifunctional, copolymers of simple monomers with oil-sol. dispersants)
- IT Amines, compounds
RL: USES (Uses)
(polyalkylenepoly-, reaction products with polyisobutenylsuccinic anhydride, copolymers with simple monomers, multifunctional **additives** for **lubricating oils**, manuf. and properties of)
- IT 50-70-4DP, reaction products with **acrylic** acid and chlorinated polyisobutene 67-56-1DP, reaction products with polyisobutenylsuccinic anhydride 69-65-8DP, reaction products with chloroacetyl chloride and polyisobutene 126-30-7DP, reaction products with polyisobutenylsuccinic anhydride 143-28-2DP, reaction products with polyisobutenylsuccinic anhydride 25322-68-3DP, reaction products with polyisobutenylsuccinic anhydride
RL: PREP (Preparation)
(dispersants for **lubricating oils**, manuf. of)
- IT 105-53-3DP, C75 alkyl derivs., reaction products with polyethylenepolyamines 107-15-3DP, reaction products with long-chain carboxylic acids 111-40-0DP, reaction products with polyisobutenylsuccinic anhydride 112-24-3DP, reaction products with chlorinated polyisobutene and Me **methacrylate** 4067-16-7DP, reaction products with long-chain carboxylic acids 4461-39-6DP, reaction products with polyisobutenylsuccinic anhydride 9003-27-4DP, carboxy-terminated, reaction products with ethylenediamine 25497-48-7DP, reaction products with polyisobutenylsuccinic anhydride 63943-90-8DP, reaction products with polyethylenepolyamines
RL: PREP (Preparation)
(**lubricating-oil** dispersants, manuf. of)
- IT 79-06-1DP, copolymers with diacetone acrylamide and esters or amides of polyisobutenylsuccinic anhydride 88-12-0DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 100-42-5DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 107-13-1DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 108-05-4DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 108-30-5DP, polyisobutenyl derivs., reactions products with polyethylenepolyamines, copolymers with simple monomers 110-17-8DP, C12-14 alkyl esters, copolymers with pentaerythritol ester of polyisobutenylsuccinic anhydride and vinylpyrrolidone 141-32-2DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 2873-97-4DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride 6735-03-1DP, copolymers with esters and amides of polyisobutenylsuccinic anhydride
RL: PREP (Preparation)
(multifunctional **additives** for **lubricating oils**, manuf. and properties of)
- IT 115-77-5DP, reaction products with long-chain carboxylic acids, copolymers with simple monomers
RL: PREP (Preparation)
(multifunctional **additives** for **lubricating**

oils, manuf. of)
 IT 50-70-4DP, reaction products with acrylic acid and
 chlorinated polyisobutene
 RL: PREP (Preparation)
 (dispersants for lubricating oils, manuf. of)
 RN 50-70-4 HCAPLUS
 CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L53 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1980:200745 HCAPLUS
 DN 92:200745
 TI Hydrocarbylpoly(oxyalkylene) aminoesters
 IN Lewis, R. A.
 PA Chevron Research Co., USA
 SO Belg., 27 pp.
 CODEN: BEXXAL
 DT Patent
 LA French
 IC C07C; C10L
 CC 51-6 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 877357	A1	19791015	BE 1979-196035	19790628
	US 4198306	A	19800415	US 1978-921400	19780703
	CA 1146965	A1	19830524	CA 1979-329130	19790605
	AU 7948323	A1	19800110	AU 1979-48323	19790622
	AU 528034	B2	19830414		
	BR 7904094	A	19800311	BR 1979-4094	19790627
	DE 2926225	A1	19800117	DE 1979-2926225	19790629
	DE 2926225	C2	19880331		
	FR 2430435	A1	19800201	FR 1979-17129	19790702
	FR 2430435	B1	19830225		
	GB 2026507	A	19800206	GB 1979-22850	19790702
	GB 2026507	B2	19821215		
	JP 55027177	A2	19800227	JP 1979-83860	19790702
	JP 61033016	B4	19860731		
	NL 7905177	A	19800107	NL 1979-5177	19790703
	NL 184067	B	19881101		
	NL 184067	C	19890403		
PRAI	US 1978-921400		19780703		

AB Gasoline and diesel fuel detergents, used in amts. of 100-500 ppm, consist of hydrocarbylpoly(oxyalkylene) amino esters of mol. wt. 600-5000, and are also useful in lubricating oils. Thus, 500 g of a polypropylene glycol monobutyl ether [9003-13-8] (mol. wt. 1850), 350 mL xylene, 31 g CH₂:CHCO₂H [79-10-7], 10 g p-MeC₆H₄SO₃H, and 1.0 g hydroquinone, heated 4 h with removal of 5 mL H₂O and part of the xylene, and filtration, gave a soln. of polypropylene glycol Bu ether acrylate [51247-77-9]. This compd. 100, xylene 100, and

ethylenediamine [107-15-3] 15.7 g, heated 4 h at 120.degree. gave 88 g polypropylene glycol Bu ether N-(2-aminoethyl)2-aminopropionate [73303-27-2] contg. 0.49% basic N. Pb-free gasoline contg. 400 ppm of this **additive** gave 23 mg deposits on the intake valve compared with 150 mg with **additive**-free fuel.

ST aminoester detergent diesel fuel; gasoline detergent polyoxypropylene aminoester

IT Fuels, diesel
(detergents/for, hydrocarbylpoly(oxyalkylene) aminoesters as)

IT Gasoline additives
(detergents, hydrocarbylpoly(oxyalkylene) aminoesters)

IT 51247-77-9P
RL: PREP (Preparation)
(prepn. of and reaction with ethylenediamine)

IT 73303-27-2P
RL: PREP (Preparation)
(prepn. of, as detergents for diesel fuel and gasoline)

IT 9003-13-8
RL: RCT (Reactant)
(reaction of, with **acrylic acid**)

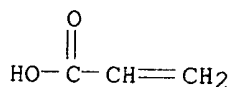
IT 107-15-3, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol Bu ether **acrylate**)

IT 79-10-7, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol monobutyl ether)

IT 79-10-7, reactions
RL: RCT (Reactant)
(reaction of, with polypropylene glycol monobutyl ether)

RN 79-10-7 HCAPLUS

CN 2-Propenoic acid (9CI) (CA INDEX NAME)



L53 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1980:44559 HCAPLUS

DN 92:44559

TI Polyfunctional additive for **lubricants**

IN Iordache, Gheorghe; Baliu, Sotir; Iordache, Maria; Olteanu, Maria; Luca, Paula

PA Institutul de Cercetari si Proiectari Tehnologicepentru Rafinarii si Instalatii Petrochemice, Rom.

SO Rom., 3 pp.
CODEN: RUXXA3

DT Patent

LA Romanian

IC C10M001-00; C10M003-00

CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 73549	B	19780315	RO 1974-77617	19740212
AB	The additive was obtained as a graft copolymer of vinyl acetate (I) with nondistd. C12-16 alkyl methacrylates (II) and consists				

of 10-20% I, 30-40% II, 40-60% paraffin oil (III) and could be prepd. by initial polymn. of II for 2-4 h at 70-90.degree. in presence of BzO2 at the same temp., then the I grafting was made at moderate rate on the macromol. chain, using I inhibited with 0.05-0.3% **hydroquinone**, after which 2 portions of Bz2O2 and one of III were added for 1.5-2.5 h, the polymn. being finished with an other portion of Bz2O2 at 90-120.degree..

ST vinyl acetate **alkylmethacrylate** copolymer lubricant
 IT Polymerization
 (graft, of vinyl acetate on poly(**alkylmethacrylate**))
 IT **Lubricating oil additives**
 (multifunctional, vinyl acetate-**alkylmethacrylate** copolymer)
 IT 79-41-4D, C12-16 alkyl esters, polymers with vinyl acetate
 RL: USES (Uses)
 (graft, multifunctional **lubricating oil additive**)
 IT 108-05-4D, polymer with C12-16 **alkylmethacrylates**
 RL: USES (Uses)
 (graft, multifunctional **lubricating oil additives**)

L53 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2002 ACS

AN 1980:25360 HCAPLUS

DN 92:25360

TI Oil **additives** based on **methacrylate** esters

IN Marculescu, Niculae; Alboteanu, George; Baliiu, Sotir; Iordache, Gheorghe; Lazar, Georgeta; Oeneanu, Ion; Petre, Constantin; Scheianu, Ion; Zamfir, Marian

PA Centrala Industriala de Prelucrare a Titeiului, Ploiesti, Rom.

SO Rom., 2 pp.

CODEN: RUXXA3

DT Patent

LA Romanian

IC C08F003-66; C07C069-54

CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
 Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 62538	B	19770520	RO 1972-72099	19720901
AB	A viscosity-index improver for lubricating oils was prepd. from Me methacrylate [80-62-6] and C10-11 alcs. by transesterification in the presence of .apprx.0.2% hydroquinone and 1.5% H2SO4, sepn. by distn. of the MeOH evolved, purifn. of the higher ester by vacuum distn., and polym.				
ST	methacrylate viscosity index improver; lubricant additive methacrylate polymer; transesterification methacrylate ester				
IT	Transesterification (of Me methacrylate with higher alcs.)				
IT	Lubricating oil additives (viscosity-index improvers, poly(alkyl methacrylates), manuf. of, from Me methacrylate)				
IT	79-41-4DP, C10-11-alkyl esters RL: IMF (Industrial manufacture); PREP (Preparation) (manuf. and polymn. of)				
IT	80-62-6 RL: RCT (Reactant) (transesterification of)				

L53 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1978:532254 HCAPLUS
 DN 89:132254

TI **Methacrylic polymer-based additive for lubricating oils**

IN Iordache, Gheorghe; Balliu, Sotir; Alboteanu, Gheorghe; Iordache, Maria; Olteanu, Maria; Luca, Paula

PA Institutul de Cercetari si Proiectari Tehnologice pentru Rafinarii si Instalatii Petrochimice, Rom.

SO Rom., 3 pp.

CODEN: RUXXA3

DT Patent

LA Romanian

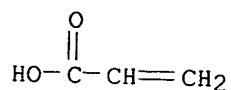
IC C10M001-00

CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 60229	B	19760615	RO 1974-77618	19740212
AB	Polymethacrylate viscosity-index improvers and pour-point depressants for lubricating oils are prep'd. by polymn. of a methacrylate ester at 70-120.degree. in the presence of Bz2O2 or azobisisobutyronitrile and by dissolving the polymer in a paraffinic oil. The methacrylate esters are prep'd. by esterification of methacrylic acid [79-41-4] or transesterification of Me methacrylate [80-62-6] with C4-20 alcs. in the presence of H2SO4 as catalyst, hydroquinone as polymn. inhibitor, and a heavy mineral oil or a furfural ext. from the refining of mineral oils (contg. 0.1-0.3% S), which also functions as a polymn. inhibitor.				
ST	polymethacrylate lubricating oil additive ; viscosity index improver polymethacrylate ; pour point depressant polymethacrylate ; methacrylic acid esterification; methyl methacrylate transesterification				
IT	Alcohols, reactions				
	RL: RCT (Reactant)				
	(C10-11, esterification by, of methacrylic acid)				
IT	Lubricating oil additives				
	(pour-point depressants, acrylic acid ester polymers, manuf. of)				
IT	Lubricating oil additives				
	(viscosity-index improvers, acrylic acid ester polymers, manuf. of)				
IT	79-41-4, reactions				
	RL: RCT (Reactant)				
	(esterification of, by C10-11 alcs.)				
IT	79-10-7DP, esters with C10-11 alcs., polymers 25719-51-1P				
	25719-52-2P 25986-80-5P				
	RL: PREP (Preparation)				
	(lubricating oil additives, manuf. of)				
IT	104-76-7 112-53-8 36653-82-4				
	RL: RCT (Reactant)				
	(transesterification by, of Me methacrylate)				
IT	80-62-6				
	RL: RCT (Reactant)				
	(transesterification of)				
IT	79-10-7DP, esters with C10-11 alcs., polymers				
	RL: PREP (Preparation)				
	(lubricating oil additives, manuf. of)				

RN 79-10-7 HCAPLUS
 CN 2-Propenoic acid (9CI) (CA INDEX NAME)

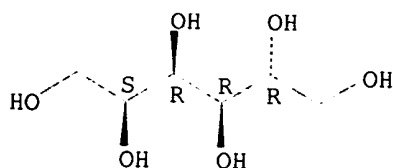


L53 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1977:538509 HCAPLUS
 DN 87:138509
 TI Carboxylate ester additives for fuels and lubricating oils
 IN Miller, Clark Ober
 PA Lubrizol Corp., USA
 SO U.S., 17 pp. Cont.-in-part of U.S. 3,957,854.
 CODEN: USXXAM
 DT Patent
 LA English
 IC C07C103-14
 NCL 260404500
 CC 51-9 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4031118	A	19770621	US 1975-644677	19751229
	BE 750135	A	19701109	BE 1970-750135	19700508
	GB 1306529	A	19730214	GB 1970-22584	19700511
	CA 956397	A1	19741015	CA 1970-82375	19700511
	JP 50033483	B4	19751031	JP 1970-40015	19700511
	NL 7006814	A	19701116	NL 1970-6814	19700512
	NL 164878	B	19800915		
	NL 164878	C	19810216		
	US 3836470	A	19740917	US 1973-368383	19730608
	US 3836469	A	19740917	US 1973-368545	19730608
	US 3838052	A	19740924	US 1973-368382	19730608
	US 3838050	A	19740924	US 1973-368782	19730611
	US 3836471	A	19740917	US 1973-369384	19730612
	US 3879308	A	19750422	US 1973-369370	19730612
	US 3957854	A	19760518	US 1973-398034	19730917
	JP 55021402	A2	19800215	JP 1976-121164	19761008
PRAI	US 1969-823990	A2	19690512		
	US 1970-12838	A3	19700219		
	US 1971-152425	A2	19710611		
	US 1973-398034	A2	19730917		
	US 1971-152424	A1	19710611		
	US 1971-152426	A1	19710611		
	US 1973-359952	A2	19730514		
	US 1973-360207	A2	19730514		
AB	High-mol. wt. carboxylate esters, which are used as rust inhibitors, dispersants, and detergents for gasolines, diesel fuels, kerosines, and lubricating oils, were prepd. by the esterification of a C.gtoreq.50 carboxylic acid with a polyoxyalkylene polyol and .gtoreq.1 of polyhydric alcs., amines, and alk. earth metal compds. Thus, an additive for diesel fuel was prepd. by esterification of a high-mol.-wt. carboxylic acid, obtained by heating chlorinated polyisobutylene (av. mol. wt. 2300 and Cl content 4.7%) with methacrylic acid, with propoxylated ethoxylated glycerol (av. mol.				

- wt. 4800) followed by neutralization with Ba(OH)₂.
- ST diesel fuel dispersant detergent; corrosion inhibitor **lubricating oil**; gasoline dispersant corrosion inhibitor; kerosine detergent corrosion inhibitor; ester **additive fuel lubricant**
- IT Kerosine
RL: USES (Uses)
(corrosion inhibitors for, carboxylate esters as)
- IT Fuels, diesel
(detergents-dispersants for, carboxylate esters as)
- IT Amines, compounds
RL: USES (Uses)
(reaction products with polyisobutyl derivs. of succinic anhydride and polyols, corrosion inhibitors for hydrocarbon fuels)
- IT Gasoline additives
Lubricating oil additives
(corrosion inhibitors, carboxylate esters as)
- IT **Lubricating oil additives**
(detergents, carboxylate esters as)
- IT Fuels
(hydrocarbon, corrosion inhibitors for, carboxylate esters as)
- IT 50-70-4D, reaction products with succinic anhydride polyisobutenyl derivs. and polyamines 69-65-8D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 108-30-5D, polyisobutenyl derivs., reaction products with polyamines and polyols, alk. earth metal salts 112-57-2D, reaction products with polyols and polyisobutenyl derivs. of succinic anhydride 115-77-5D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 140-31-8D, reaction products with polyamines and succinic anhydride polyisobutenyl derivs. 6940-58-5D, polyhexenyl derivs., esters with propylene glycol, triethanolamine, and polyethylene-polypropylene glycol mono(dinonylphenyl) ether 64296-01-1D, polyisobutenyl derivs., reaction products with polyamines and polyols, alk. earth metal salts 64296-02-2D, polyisobutenyl derivs., alk. earth metal salts 64296-03-3D, polyisobutenyl derivs.
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuel)
- IT 57-55-6D, esters with high-mol. wt. acids 102-71-6D, reaction products with high-mol. wt. acids 25322-68-3D, esters with high-mol. wt. acids
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuels)
- IT 75-21-8D, reaction products with N,N,N',N'-tetrakis(.beta.-hydroxypropyl)ethylenediamine and propylene oxide 75-56-9D, reaction products with N,N,N',N'-tetrakis(.beta.-hydroxypropyl)ethylenediamine and ethylene oxide 102-60-3D, polyoxyalkylated
RL: USES (Uses)
(demulsifier for hydrocarbon fuels)
- IT 25067-06-5
RL: RCT (Reactant)
(reaction of, with pentenetricarboxylic acid)
- IT 50-70-4D, reaction products with succinic anhydride polyisobutenyl derivs. and polyamines
RL: USES (Uses)
(corrosion inhibitors, for hydrocarbon fuel)
- RN 50-70-4 HCAPLUS
- CN D-Glucitol (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- L53 ANSWER 56 OF 56 HCAPLUS COPYRIGHT 2002 ACS
 AN 1975:88292 HCAPLUS
 DN 82:88292
 TI Lubricity additives. New class based on polymers and esters
 AU Misra, A. K.; Mehrotra, A. K.; Srivastava, R. D.; Nandy, A. N.
 CS Def. Res. Lab., Kanpur, India
 SO Proc. World Conf. Ind. Tribol., 1st (1973), Meeting Date 1972, B2, 6 pp..
 Editor(s): Malhotra, R. C. Publisher: Indian Soc. Ind. Tribol., New Delhi,
 India.
 CODEN: 29CKAX
 DT Conference
 LA English
 CC 51-7 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 36, 37
 AB In a ball-wear test machine, 25 vinyl ester and acrylic
 polymers or copolymers and 8 simple or complex long chain esters of
 glycerol, sorbitol, neopentyl glycol, diethylene glycol,
 diethylene and polyethylene glycol were evaluated at 0.05-1.0% concn. in
 light mineral oil, aviation turbine fuel, and winter and
 sub-zero diesel fuels. Several of the compds. were effective as
 antiwear additives.
 ST lubricating oil antiwear polyester;
 wear inhibiting lubricant additive; jet fuel
 lubricating additive; diesel fuel lubricating
 additive
 IT Lubricating oil additives
 (acrylic polymer, vinyl ester, and polyester-based)
 IT Esters, uses and miscellaneous
 Polymers, uses and miscellaneous
 RL: USES (Uses)
 (fuel and lubricating oil additives)
 IT Fuels, rocket
 (jet, acrylic polymer, vinyl ester and polyester-based
 lubricant additives for)
 IT Fuels, diesel
 (lubricants additives for, acrylic polymer, vinyl
 ester and polyester-based)
 IT 2-Butenedioic acid (E)-, didodecyl ester, polymer with dodecyl
 2-methyl-2-propenoate and 2-methyl-2-propenoic acid, esters
 2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with (E)-didodecyl
 2-butenedioate and 2-methyl-2-propenoic acid, esters
 2-Propenoic acid, 2-methyl-, polymer with (E)-didodecyl 2-butenedioate and
 dodecyl 2-methyl-2-propenoate, esters
 RL: USES (Uses)
 (fuel and lubricating oil additives)
 IT 123-95-5 1323-39-3 1338-43-8 2402-58-6 7003-73-8 16635-51-1
 25496-72-4 52383-46-7 52383-76-3 52383-77-4 52438-03-6
 52467-26-2 54578-66-4 54578-67-5 54578-68-6 54578-69-7
 RL: USES (Uses)
 (fuel and lubricating oil additives)

IT	25719-52-2	27456-04-8	52383-42-3	52383-52-5	52383-53-6
	52383-72-9	54518-61-5	54518-63-7	54518-64-8	54578-76-6
	RL: USES (Uses)				
	(fuel and lubricating oils additives)				
IT	52383-79-6P				
	RL: PREP (Preparation)				
	(prepn. of)				